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SOME PISCATORIAL PROBLEMS
IDLY CONSIDERED

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TO
MY FRIEND
J. ARTHUR HUTTON

BY THE SAME AUTHOR.

The Gentle Art : Some Sketches and Studies.

A Mixed Basket.

The Sea-trout : A Study in Natural History.

Some Piscatorial Problems

IDLY CONSIDERED

BY

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PREFATORY NOTE.

THERE is nothing pretentious—I hope—in this little book. To tell the truth it is the fruit of the enforced leisure of a long convalescence during which all labour of a robust type was forbidden me. With such energy as I could command I amused myself with revising and stitching together in book form a selection of articles from the series which I have contributed to “The Glasgow Herald” during the past few years. I had hopes too that in their present shape these articles might reach many friends scattered abroad who had not access to them on their first appearance. It is unnecessary to add that my scheme has received the kind approval of the editor of the journal referred to.

I have to thank my friend, the Rev. Alex. Slater Dunlop, B.D., Minister of Luss, for his revision of the proof sheets.

H. L.

Luss, September 1920.



Old Flies and New

CHAPTER I.

OLD FLIES AND NEW.

NOT very long ago I was privileged to see some of the flies commonly used for general loch fishing by the father of a friend of mine who has himself attained a respected middle age, and I was at once impressed by their size. They were beautifully dressed and tied with gut loops, but in size they appeared to range downwards, according to the Limerick scale of hook, from No. 1 to about No. 5, whereas nowadays to fish the same waters we would employ sizes varying from about No. 7 to No. 12. I used one of the larger flies on Loch Lomond as a dropper to see whether it would yet retain its attractiveness, and indeed it did, for a salmon rose almost at the first cast and incontinently took it away, the gut eye unfortunately drawing out as I struck.

In other quarters I made inquiry as to the sort of loch flies used by our progenitors and found that in many cases—I might say in most cases—the flies used were materially larger than those we

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now employ. It is reasonable enough to ask why this should be so, but perhaps it is not very easy to find an answer that will be convincing.

Is it that the trout of these days have become more alive to the ways and wiles of the angler? Are fish, in other words, better educated now than they were in earlier times? One can hardly believe it. There is a passage in that excellent little book by Mr. A. Leitch, "A Scottish Fly-Fisher," which seems to me to contain much sound sense regarding the trout's sagacity. "He is a strange blend of stupidity and genius," the author writes. "Happily he does not deserve his reputation [*i.e.*, for wisdom]; if he did, man's ingenuity would be applied in vain to the discovery of a means of circumventing him. In reality his mind is but poorly furnished, and he seems to learn little from experience. Impressions are quickly effaced from his memory, and incidents forgotten as soon as past. Instances of his dulness of apprehension might be quoted by the score. The fact is that we read ourselves into the trout, and ascribe to him thoughts and motives similar to our own."

It is to be observed that I am questioning the probability of there being any raising of the

general level of the trout's understanding from one generation to another, not the gaining of an acuter intelligence by any individual trout. Trout will always possess for all time their former and present characteristics—as they seem to us—of boldness and timidity, of credulity and doubt, of cunning and simplicity, of recklessness and fear. But any single trout may readily be taught by its environment or experience, as other wild creatures may be taught, to discriminate between specific facts, to show preferences, or to hesitate dislikes, although incapable altogether of appreciating effects and their causes.

The result may to all intents and purposes be the same; but it seems plausible to argue that, if the same fish are fished over systematically for a lengthened period of time by anglers with large flies, and an angler suddenly arrives who attacks them with small flies, he will meet with a success out of all proportion to the results obtained by his brethren of the rod.

As very few waters in these islands retain now the virgin innocence of the Golden Age, the angler who approaches any fresh ground would seem to be wise to do so with light tackle and small flies in order to allay so far as may be

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the natural or acquired suspicions of the fish. Although not invariably squaring with my own practice that may be partially the reason for the use of small flies nowadays, but I cannot think it is the sole reason, else we credit our forebears with very little acumen.

It must be remembered that angling of a sort—if even now not highly scientific—has been prevalent in Scotland for quite a long time. I regret not to be able to state with absolute exactness just when angling, as contrasted with mere fishing, began. The earliest reference I have found to a rod, or “wand,” being used to catch fish is in 1632. It may interest the curious to know that the reference was found in the records of the Baron Court of Balloch (Tayside). A period of 288 years argues a fairly respectable antiquity for our sport and yet progress in the more scientific aspects of angling seem to have advanced but slowly.

Something of refinement may have been due to Richard Franck, whose “Northern Memoirs” were “writ in the year 1658.” His book suggests that he at least was no novice in his craft, and Sir Walter Scott dignified a second edition of it in 1821 with a preface.

Mention of Scott, again, reminds me that, in "Waverley," Evan Dhu Maccombich, in 1745, is credited with the capture of a fish in a Perthshire lake with rod and line. That Scott describes the fish as "a large salmon-trout," a fish not easily to be found in any Perthshire loch, is immaterial. The point is that he credits rod and line with the capture of it, and, as one thing leads to another, reference to the Forty-Five recalls to me that my friend, Dr. Neil Munro, in his book, "The New Road"—the road through the Highlands constructed by General Wade shortly after the Rising—furnishes Ninian Campbell with a telescopic rod and flies with which he slays an autumn salmon in the Orchy! Such fictional incidents may—or may not—be historical, but at any rate we do not reach firm ground as to the use of practical and comparatively refined sporting tackle until a hundred years later (1847) when Thomas Tod Stoddart published "The Angler's Companion." W. C. Stewart, with his "Practical Angler," in 1857, advanced our education still further, and these works bring us well down to our fathers' times if not indeed to our own. But loch flies still remained fairly crude and imperfect imitations of nature.

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The upshot of the matter is that if the long succession of those who indulged in the sport of loch fishing down to, say, fifty years ago did not reduce their outfit to the same extent of refinement to which we have reduced it now, we may conclude that they found no necessity for doing so.

We have at least no right to assume that they could not have dressed the most minute of loch flies with a perfection of finish that Mr. Halford himself might have envied, if they had so wished. Diagrams of the patterns of river flies used by them forbid the assumption. Why, then, were they content with rougher, larger, and, as we would consider them, coarser flies to fish the lochs?

The truth, I think, is to be found in the contrast between the older and newer habits of anglers themselves. Fifty years ago the holiday habit was not so firmly established as it is to-day, and I fancy that there were but few anglers in those earlier times who ever thought of going off on a three weeks' or a month's angling holiday.

I am inclined to think they took the opportunity of angling as it chanced to them, those fathers of ours, rather than make it specially their holiday business. They would not angle, even if they

lived beside a stream or loch, unless the day happened to be one in which the conditions seemed to them to be favourable for angling. I have it on the authority of several kindly patriarchs that angling was really only indulged in when the rain descended and the waters waxed and the winds blew, precisely the sort of weather in which even now it seems to be immaterial whether the flies one uses are large or small, or the tackle fine or coarse.

But what have we now? Why, multitudes of anglers who repair to some water or other with the determined and express purpose of fishing it every day for a month, and, what is a more pregnant determination, of catching fish in it every day for a month. But we have come to realise that every day is not—in the older sense—“a fishing day,” and so we and the tackle-makers, by refining the tackle and flies, have laboured year by year, and not without success, to defeat more effectively the weather and, only incidentally, the fish.

Hence our smaller flies.

Wet-Fly Entomology

CHAPTER II.

WET-FLY ENTOMOLOGY.

THIS chapter heading, "Wet-Fly Entomology," will at once challenge discussion because there are anglers, not a few, who deny that there is any such thing. They are dry-fly fishers as a rule, these scoffers, and of dry-fly fishers they are more particularly those who have been ranked, by general consent, as "purists."

Now your purist seems to have it firmly fixed in his mind as a sort of angling axiom that trout take all floating artificial flies for natural insects and that they rise to wet flies—they cannot deny that they do rise—because they take them for almost anything else in the world than natural winged creatures. Why those whom we may, with every respect, designate purists should think this I cannot imagine.

I have always found it difficult to believe that trout can at all times distinguish—in smooth water, in a ripple, or in the boisterous rush of a

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river—just exactly when the lure is in the water, on the water, or over the water. My belief rather is that where there is rough water, with of necessity a constantly varying surface, a trout neither knows nor cares in which medium the insect is at any given moment and simply “goes for” it as soon as he detects it. Hence, provided the lure, whether wet or dry, in any reasonable degree resembles a “fly,” the angler who fishes in other respects with care and skill will meet with success as a fly-fisher, and if his lure nearly approximates to some insect for which trout are then upon the outlook his success will be the greater. To secure this latter advantage, in my view, it is advisable that the wet-fly fisher should have some general knowledge of the kinds of fly that periodically hatch out in our lochs and streams—in other words, of wet-fly entomology. There is nothing I regret more than that my knowledge of this important subject is so deficient.

I was amused with the somewhat dogmatic attitude on this matter which was assumed by a writer who (from an Irish address) once penned the following diatribe :—“Wet-fly fishing, whether for salmon or trout, has no relation with entomology; it is a science purely empirical and experi-

mental, a thing arbitrary and haphazard, and resting on no sanction whatever but that of success. The well-known angling method of using an artificial 'fly,' wet, is the very negation of all that is characteristic of life, movement, form, and locale in the fly world, and it has yet to be proved that a wet-fly ever killed a salmon or trout because of its resemblance (?) to any aerial insect whatever."

This is, of course, delightfully breezy asseveration. One wonders what the writer might have to say concerning the multitude of legs with which the dry-fly dresser decorates his imitation of nature in order that the otherwise accurately and painfully copied "insect" may float.

But if one is to accept the criticism that a wet "fly" is the "negation" of everything that is entomological, what—since trout are plainly deceived by it—may be said of its resemblance to something or other in the department, say, of ichthyology? A purist hastens to inform us.

Amongst other attributes of those who have had a dry-fly education is a morbid tendency to discover mysteries in order that they may propound solutions of them. A recent writer, for instance, Mr. J. C. Mottram, discourses thus on

wet flies* :—"Although at first sight there seems to be no method in their making, and although they appear to be naught but the fancies of fertile imaginations, nevertheless a more careful study reveals a few curious facts. The shape of the winged patterns is wonderfully uniform, which surely proves that this particular shape is the best. Is there anything in nature like it? Yes, a small fish or fry." One might imagine Hamlet submitting some such theory to Polonius and the immediate, not to say hasty, agreement of Polonius therewith. "I know," concludes Mr. Mottram, "of no facts that will not fit this theory, that all winged wet-flies are taken by trout for small fish. In some rivers red flies, in others blue, do best; this possibly because little fish, which swim different waters, are different in colour."

Now this is the very mid-summer madness of the dry-fly expert's delusion, and the author who advises that "the wet-fly fisherman had better forget about the flies he tied to imitate flies," recommends the continued manufacture of dry-flies lacking some five-sevenths or so of the

* "Fly-Fishing: Some New Arts and Mysteries." (*The Field and Queen*, Horace Cox, Ltd., 1914.)

qualities which he tabulates as "important" towards a successful imitation of a natural fly. Mr. Mottram will pardon me if I, with other anglers who have been—imperfectly, no doubt—educated under wet-fly auspices, decline to follow his advice, even while we admit that lures representing small fish are well-known to exist and have their uses.

The difficulty is to convince the dry-fly man against his will that a wet fly may really successfully represent a fly.

In the effort to convince him may I adduce first a type of wet-fly which I see used almost every other day on a loch? Loch Lomond is noted for its surprisingly protracted hatch of May-fly. The fly begins to hatch out usually in the last week of May and in some seasons continues to hatch out well into October. The 17th of that month is the latest date on which I have seen it. It is not remarkable, then, that the standard Loch Lomond wet-flies for salmon, sea-trout, and trout should be based upon the May-fly in some combination of colours of green and yellow. In my experience the simplest patterns of mallard and yellow and mallard and green are as effective as any, and in the beginning of the season they may be

dressed on hooks of sizes No. 6 and No. 5, Limerick scale, with even larger sizes for rough water. With flies dressed on hooks, size No. 5, I have had good baskets of trout, and at other times I have had many salmon and sea-trout.

Now the manner in which these lures are dressed fulfils Mr. Mottram's description, viz. : "The wing of the fly (drawn as it is when being fished, *i.e.*, close to the body) corresponds to the fish's back, and is almost always darker than the body, which represents the belly of the fish, and which is often made of tinsel. The shoulder hackle imitates the pectoral fins, the wisp the fish's tail."

If there is, in truth, anything in the resemblance thus categorically set forth, it is no more than a coincidence. It is only when the May-fly is seriously "up" that one may expect many fish of all kinds to rise in Loch Lomond, and then, too, terns, black-headed gulls, chaffinches, and swallows are all equally with the fish on the outlook for the fly. On one occasion a friend of mine caught two salmon on his artificial May-flies which throughout the forenoon were constantly being picked off the water by some terns which persisted in haunting his boat, a not uncommon occurrence.

Will any person, other than Mr. Mottram, believe that the fish which rose at them, or the birds which dipped at them, took these lures for "small fish or fry," or indeed for anything else than what they were intended to represent, namely, the May-fly, or "green drake"?

It would be perfectly easy to cite other examples of wet-fly, dressed as Mr. Mottram describes them to be dressed, which do represent flies and do not represent "small fish or fry." Of stone-flies and caddis-flies there are a great number, some of which I have had imitated for me and have used with success. But take, in river fishing, the hatch of March browns. When the March brown is "on the water," trout and sea-trout, and the salmon kelts even, have a joyous time, and in most pools where the fish are congregated the plunges of heavy fish at the fly will be frequently heard.

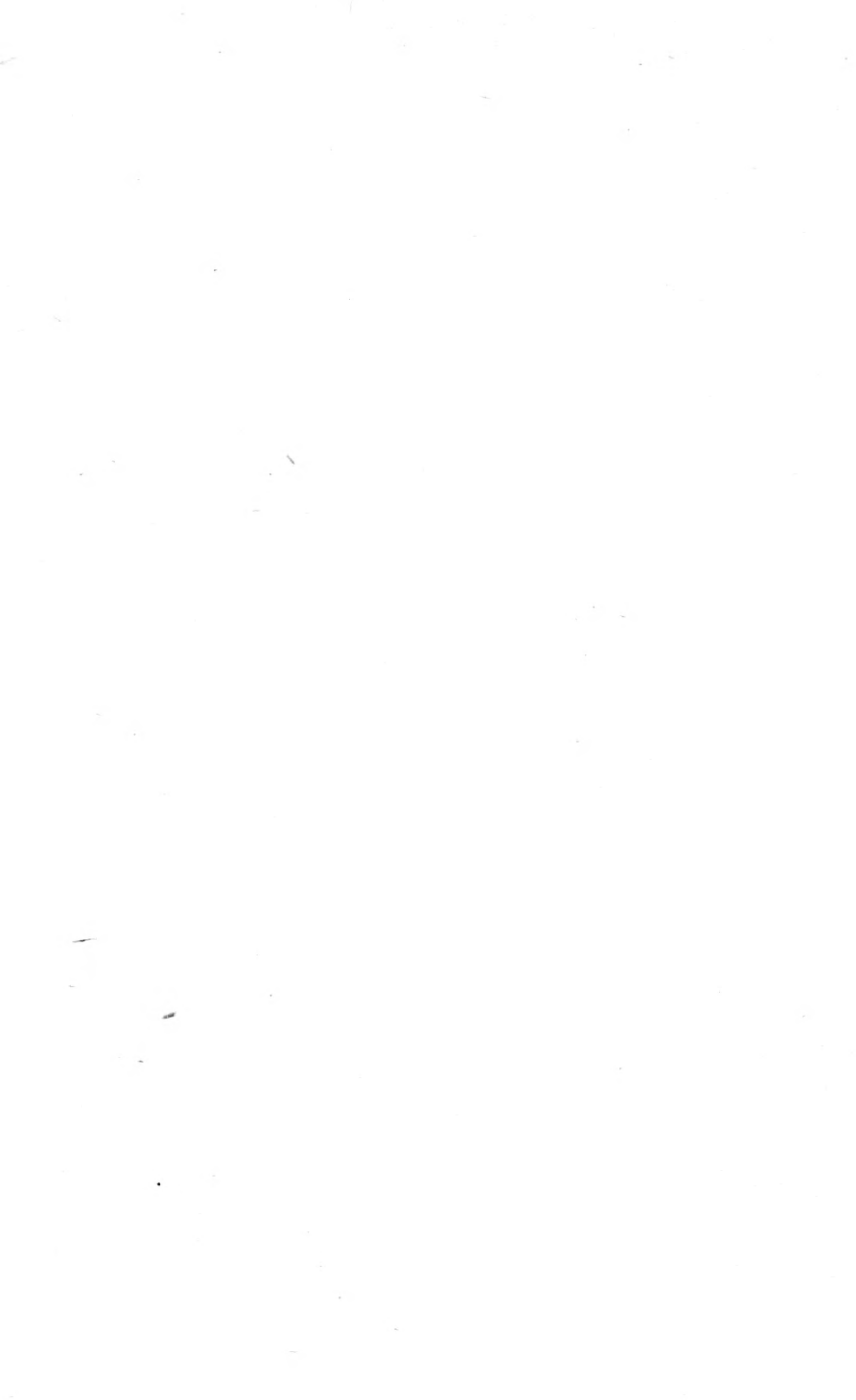
Is it reasonable to believe that these fish of differing species take the imitation March brown for other than a fly? Yet Mr. Mottram writes: "I believe a winged March brown is taken by the fish for a shrimp; by removing the March brown's tail and clipping its wings a little an excellent shrimp results. I can see no reason in the

ordinary hackled wet-flies but I am told that some look not unlike creepers."

There is reason in the roasting of eggs, and if authors like Mr. Mottram fail to perceive reason in the dressing of wet-flies, in the motion of the "fly" when used, and in the eagerness of the fish to seize it ere it escapes his range of action, then all one can conclude is that their opportunities for careful observation have been lacking.

In my opinion there is an entomology worthy of the wet-fly angler's study.

Local Colour



CHAPTER III.

LOCAL COLOUR.

NOT the least of the many attractions of angling is, I fancy, the opportunity it affords one of wandering in an almost illimitable field of speculation. I have long ago convinced myself that many of the ways of fish, like the ways of Providence, are past finding out, yet I would be the last, if chary of theorising myself, to throw cold water on the theorist. Most of our great angling writers have been great theorists as well as great anglers, and possibly all the greater as anglers because they have been great theorists. Even when their theories have been proved to bear no real relation to the facts, as was the case with Thomas Tod Stoddart's exploded theory regarding the propagation of the *Salmonidæ*, the argument has been none the less interesting.

I am tempted, after this prelude, to follow in the wake of my betters and indulge myself in a little idle speculation regarding the colour question in its application to the artificial fly. I have

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really no particular theory to advance after all, but would merely content myself with suggesting some general reasons why it may be possible that artificial flies of certain colours appeal more effectively to rising fish than do flies of other colours in particular places and at particular seasons of the year.

This is not a subject by any means novel, but since the results of Dr. Ward's remarkable sub-aqueous experiments have become known to the angling public much that is interesting has been published in various periodicals relative to the subject. It has been pointed out in these by some writers that the prevailing tint of the bottom holding the water traversed by the fly affects the colouration of the latter to an unexpected extent. I have for my own part been for long of the opinion that anglers were overmuch inclined to attach undue weight to the appearance of the sky, or, one might put it, to its colour, in selecting a fly, instead of giving the attention they might to the colour of the bottom and the general environment. In other words, they seek too often inspiration from above, when after all the key to success may lie in what is to be found below. I am not prepared to say how far this suggestion

will hold good in all circumstances, but that, apart from the weather and the state of the water, and the natural fly that is "due to be on the water," it holds good to some extent, I am in my own mind quite convinced.

I may perhaps better illustrate my meaning by a case not exactly in point, for it has reference to "minnow" trolling. I am not aware that there are any char in Loch Ness—at least Mr. C. Tate Regan, in the exhaustive list given in his "British Freshwater Fishes," does not instance that loch as one of the char's "localities"—but most anglers know that one of the deadliest phantoms used at Loch Ness in salmon trolling is the reddish brown phantom known as "the char," and it takes trout equally well. Even one of a more vivid red can be used with certainty of success. Now I do not think the fish take the lure for a char, but rather that the lure, being in harmony with its environment, has the natural appearance of a small trout. A moment's consideration will recall to those readers who have visited it that the shores of Loch Ness, and the bottom so far as visible, are of a very pronounced red colour, due to the sandstone strata of the loch basin, and many will recall that the non-migratory trout there very well

merit the designation of "brown" trout. My point is that the red colour of the phantom is that which clashes least with its surroundings and therefore is least likely to alarm a taking fish. There is, in fact, an appreciable, yet almost indefinable, harmony in nature which cannot be broken violently without putting nature's children on their guard.

The objection may be taken by someone that here is an angler who, by painting his lure red, foolishly succeeds in making it as inconspicuous as possible when really his object ought to be to make it as conspicuous as possible in order to attract the attention of the fish he aims at catching. But one has to keep in view that nearly all living creatures which prey, and are preyed upon, by a long-continued process of selection and elimination, have acquired a general character of inconspicuousness in their natural surroundings; and that fish, in special, have the power, either at will or more probably involuntarily, of adapting their "tone" to their environment, so that an "inconspicuous" bait need not necessarily be a bad lure. Yet the probability rather is that the angler, by painting his lure red, really only emphasises a colouration which his quarry would

naturally expect to see, and that it would be a mistake to offer some other colour which might render the quarry suspicious by its unexpectedness.

It was not without interest that, when fishing for trout in Loch Ness, I found that one of the most deadly artificial flies was a "cinnamon and gold," and that it was recognised in the district as one of the best "local" flies both in loch and river fishing. How far its excellence might depend upon its harmonising in colour with the rock strata would perhaps be not easy to determine. And in this connection I might add that a "butcher" dressed with gold tinsel is more effective in peat-tinged water than the same fly dressed with the usual silver tinsel.

This idea, I mean that flies may have a colour differing in one water from that of the same species of fly in another water, or that they may even differ in different parts of the same water, is, I believe, not entirely absurd.

To take a common instance, there appears to be the widest possible variation in tint in the May-fly which may range from the extreme of paleness to the extreme of darkness. It is possible that the colour of the imago and sub-imago is derived

directly from the colour of the nymph, and that the colour of the nymph is derived in turn directly from the colour of the bottom which it has frequented. I have been told by a friend that in the streams which he fishes in a mining district where the bottom has been fouled by coal washings the nymphs of the May-fly are almost coal black, while the flies themselves when hatched out are exceptionally dark. This is quite possible, and I think it also possible that the more brightly coloured yellowish flies which one sees hatching out in lakes in which the May-fly is indigenous are hatched out on a sandy bottom, while those more darkly coloured green are hatched out amongst weeds.

If this be the case, then, it would be reasonable for the angler to adapt the tint of his artificial fly to the tint of the natural "local" fly, in other words, strictly to imitate the fly that is "on the water."

But it occurs to me that one might even go further in selecting a fly. The whole "argument," so to say, suggests that one would be wise to select some greenish fly to fish with over a weedy bottom, and any warm-tinted fly to fish with over a sandy bottom. In practice I have found in loch

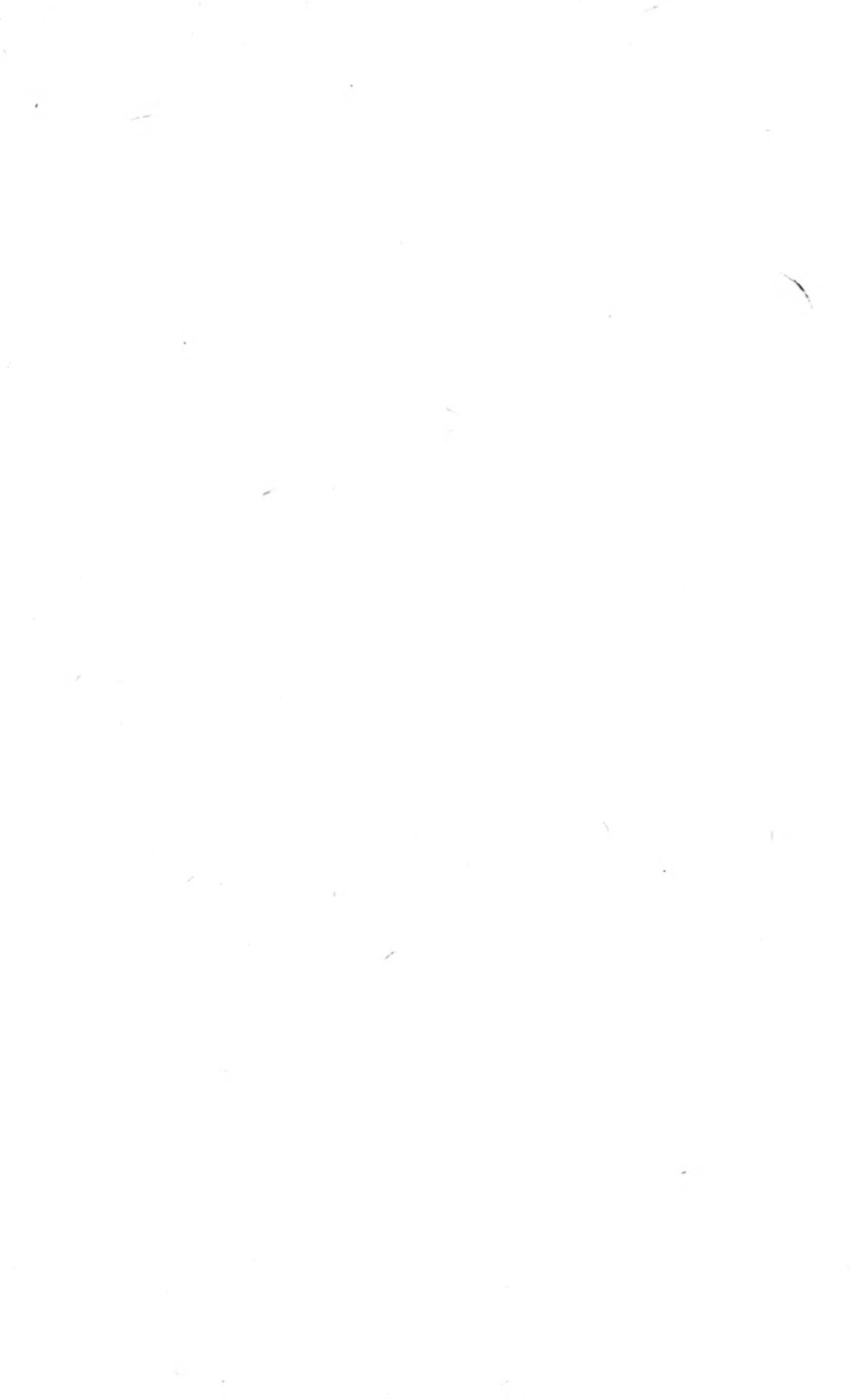
fishing that this selection is in the main a sound one, and the reason may be that by no possibility can the general colour or tint of the fly appear harsh or garish to the fish and so alarm it.

I need not go into the wider question of whether a red fly is the most appropriate fly for autumn fishing or not. Many anglers contend that it is. The mere question will open up wide vistas of speculation to the thoughtful reader. In conclusion, however, I may repeat that there is a harmony of colour in nature which doubtless applies even to the minutest living creatures, and that if we as anglers are to be successful in our craft it must be our object not to disturb that harmony by any glaring inappropriateness in our artificial lures.

But one may, as I have protested, theorise overmuch.



Size, Shape and Colour



CHAPTER IV.

SIZE, SHAPE AND COLOUR.

THE problems involved in these various attributes of the artificial fly, namely, size, shape and colour, are so numerous that a volume would really be required for their adequate treatment. It may safely be premised also, that, so long as trout are trout and men are men, many of them will defy solution. I do not pretend here to any very instructive discussion. We moderns are too apt, I think, to neglect broad general principles and to waste our energies in inventing wire-drawn theories to explain trivialities. The views of an earlier generation of writers were far more simple and practical, and a reference to some of them may serve as a corrective to modern tendencies and may even now help towards enlightenment.

* * * *

The following passage as to the size of the artificial fly is very much in point: "Although the imitation of nature is the principal object to be desired by the fly-maker, yet, in some

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instances, it will be advisable to enlarge or diminish the proportions of the artificial fly, as the state of the water may require. For instance, if the river be very high, the fly may be dressed larger than nature; if very low, the size may be reduced, and the body made thinner than the natural fly appears; and in many cases the fly, dressed as a hackle only, without wings, will succeed better than if made full by the addition of the feathers used for that purpose." Mr. G. E. M. Skues might be expected to expatiate upon some such doctrine as applied to the construction of the present-day dry-fly, but the passage I have quoted anticipates him by many years.

I came, indeed, upon these eminently practical observations in a book which I lately picked up at a sale—"The Fly Fisher's Guide, illustrated by coloured plates, representing upwards of forty of the most useful flies, accurately copied from nature, by Geo. C. Bainbridge, Esq." Modestly estimating his book as an intrusion upon the public, the author premises "that desire of fame, or expectation of profit, was not amongst the number" of motives which prompted publication; but, as the first edition of 1816 was followed by a second in 1828 and a third in 1834, it may be

hoped that Mr. Bainbridge received—as I think he deserved to receive—some measure of both. However this may be, what particularly caught my attention and gave food for thought in the passage quoted above, was the reference made by the author to the size of the fly—I mean not merely as to its length of iron or spread of wing but as to its general bulk.

I imagine that the belief is not an uncommon one amongst anglers that their forefathers were wont to fish for trout, sea-trout and salmon with flies of such unwieldy proportions as to make success with them impossible at the present day. As regards trout flies for loch fishing the belief is probably warranted and I have discussed the matter in an earlier chapter. But I am not so sure of its soundness as regards trout flies for river fishing.

An exaggerated respect for the manipulative skill of the modern fly-dresser may have fostered the belief; perhaps one fancied that the ancient flies must have been equally cumbersome with the ash-tree and fir-wood butted rods of those days; one may have casually thought that trout were more guileless and rivers less over-fished than they are now, and perhaps the general idea that

one had fuller flowing waters in which to fish influenced one's opinion. But really none of these reasons is of very great weight. I have actually heard old anglers declare that the delicate dressing of particular river flies known to them in their youth had become a lost art, and it is the commonest of complaints that certain patterns vended now are "not the thing at all." Our minds have become so impressed with the finicking refinement of modern fishing tackle that it seems incredible to us that fine work could ever have been accomplished by the old rods, yet they caught trout on flies busked upon single horse-hair, and that, too, without the adventitious aid of a running reel. In many instances the delicacy and refinement of the engraved, and tinted, patterns of river flies in the old books are a revelation to the modern fly-dresser.

Mr. Bainbridge clearly shows that what the angler—or, at any rate, the trout fly-dresser—endeavoured to do a hundred years ago was to approximate as closely as possible to the size of the natural insect he simulated in the artificial fly he constructed, with a perfect knowledge that such size might be usefully varied to suit exceptional conditions. I do not gather that he attached

equal importance to the copying of nature in every minute particular—I mean apart from size—for he concludes by directing the reader's attention to certain "standard" patterns with which "an experienced angler will take abundance of fish all the year round." All-round standard flies are not generally exact imitations of any fly.

If now we take a leap forward in time of half a century we find that Stewart teaches much the same doctrine. "What is meant for an imitation of a particular fly may occasionally do good service," he says in one passage, "not because the trout see any resemblance between it and the fly it is intended to imitate, but because, if the size and colour are suitable, it will just kill as well as any other." In fact, like Bainbridge, Stewart aimed at a general approximation to nature rather than at an exact imitation of it, and it is interesting to see how he confirms and amplifies the earlier writer's ideas. The passage, even if well known, is worth quoting for the sake of comparison. "The two great causes," he writes, "which should regulate the angler in selecting the size of fly to be used are the colour and size of the water, and the wariness of the trout; the fly, in fact, *must be large enough to ensure its being seen, but not*

so large as to enable the trout to detect its artificial character. When a river is large and dark-coloured, flies may be used a size or two larger than when it is clear; as in such circumstances it requires larger flies in order to be seen, and the thickness of the water prevents trout from detecting their artificial nature, as they would if the water was clear. In a dark windy day, a size or two larger may be used than in a calm sunny one, as the roughness of the water and the darkness of the sky prevent trout from seeing the flies so distinctly; therefore, the clearer the water and brighter the day, the smaller should the fly be, and the thicker the water and darker the day, the larger should it be; always increasing or diminishing the fly as circumstances prevent its being easily seen, or the reverse."

I think most of us will be found in agreement with these views, but what is of interest with reference to an earlier paragraph above is that in size Stewart's patterns were not materially larger than those used on Tweed and Clyde to-day. It seems to me that an extreme reduction in the size of fly used now for any water, whether trout water, sea-trout stream, or salmon river, is a fashion of comparatively recent growth and one not alto-

gether to be commended. The process of reduction has been more particularly applied to loch flies, perhaps because these have less pretensions than river flies of being exact imitations of natural insects. At any rate, thirty years ago the size generally used at Loch Leven was No. 10, Limerick scale; ten years ago it was No. 11; to-day it is No. 12 or even No. 14.

In my opinion reduction may be carried too far, for while it may be conceded that a smaller fly will raise more fish I am inclined to think that a larger fly will bring more fish to the basket. I gather from my friends that I am a "coarse" fisher; at least I confess to a belief in large flies, and perhaps my occasional successes are unmerited, but with trout flies, sea-trout flies and salmon flies I am not invariably disappointed with the comparative results obtained by using patterns of a size larger than those ordinarily used and recommended. When the intention is to offer the fish something that may be taken for a natural insect with which they are well acquainted, I see no good reason for offering them an imitation smaller than the flies they are accustomed to see, and, under suitable conditions, I have no hesitation in offering trout representations even of such

large flies as stone-flies, sedges, and green drakes of a natural size.

Sea-trout flies approximate in their type more closely on the whole to trout flies, but, as regards salmon flies, which may be disposed of in a word, there has been no great reduction in size. Indeed, when one views with reverent awe the four-inch iron of a modern T̄ay spring pattern, one wonders what the salmon of a hundred years ago would have thought of it.

* * * *

As regards the shape of the artificial fly, there is not very much room nowadays for novelty of statement, but it is sometimes interesting to go over the old ground again.

The dresser of trout flies has no doubt always copied nature pretty closely with respect to size. One can hardly agree that, until recent years at any rate, he has been very successful in simulating nature as regards shape. The indispensable adjunct of the hook and its attachment by whatever method to the line has confined ingenuity within certain limits, even when a type of fly is conceived rather than any actual species. But the imitation of nature in some respect was always

the aim of the fly-dresser, though he frequently missed his aim. Mr. Leitch, whose book has already been referred to, showed this rather amusingly by reproducing and contrasting various alleged imitations of the same insect as conceived by different artists. The result of course was ludicrous, but it is barely possible that all the patterns met with equal success at the hands of anglers, for trout at dinner-time are, to my thinking, not so pedantically critical of the lures offered to them as some writers would have us believe. In my experience they are quite willing to take with avidity even a very sketchy representation of a March brown, a sand-fly or a cinnamon sedge. But I do not go so far as to say that this is any reason, from the point of view of art, why the representation should be sketchy.

It is interesting to recall the passage of arms between Stewart and Francis Francis on this point. Confining the controversy here to shape, though it flowed into other channels, I may select this as a summary of Stewart's view: "We must now consider what it is necessary to imitate, or what do trout take, or rather mistake, the artificial fly for. As before stated, we believe that, deceived by an appearance of life, they take it

for what it is intended to imitate—a fly or some other aquatic insect. In proof of this, artificial flies are not of much use unless the trout are at the time feeding on the natural insect. And an artificial fly will kill twenty trout for one which the feathers composing it, rolled round the hook without regard to shape, will. Nay, more; a neatly made natural-looking fly will, where trout are shy, kill three trout for one which a clumsy fly will.” Like Stoddart before him, Stewart inveighs against a “bulky” fly. “The great point, then, in fly-dressing is to make the artificial fly resemble the natural insect in shape.” Without having any particular fly in your mind, his argument is, you must aim at “extreme lightness and neatness of form.” To this Francis rejoins in effect that the fly-fisher admits he is imitating some kind of insect taken by the fish. “His art is unquestionably a deception, and he must allow that he is deceiving the fish with the imitation of a fly. Then I do not see how he can get out of the sequence that the better the imitation the more likely it is to deceive, and if he is obliged to consult the fishes’ tastes at all the more sedulously he consults them the more likely he is to please them, and this is all that we Southrons do. This

is a position which I do not think it is possible to upset. Nor do I see what can be said beyond it."

I think this may be said. Stewart, with his black, red, and dun "spiders," epitomised the series of nymphs, while his three winged flies represented the perfect insects, of a host of the flies of his northern streams. Fishing with a sunk fly in briskly moving waters Stewart realised that all that was needed to deceive the trout was a dainty impression of an insect with delicate body and swaying legs, and, if a fly, with pliant wings. Seeing no particular need for more, he was practical-minded enough to consider anything further in the way of precise accuracy of imitation a waste of time and trouble. Francis, on the other hand, had experience of other streams where there was more necessity to "consult the fishes' tastes," or rather where a greater degree of deception was necessary to delude the trout, and it was imperative with him not only to have his flies conform to a type but to represent as nearly as might be an individual of the type. Stewart's principles, good as they were, and are, were barren principles leading nowhere; those of Francis contained the germs of future development, and I think that development is exemplified by the

strides that have been taken in the perfecting of the modern floating fly.

If, as one thinks, we can hardly travel, as regards river flies, much beyond the delicate winged floating creations of Mr. Frederic M. Halford or the dainty submersible spinners of Mr. G. E. M. Skues, there is still progress to be made in the perfecting of the shape of some at least of our loch fly patterns. I do not say that all are travesties of nature—I have occasionally been deceived by a fly stuck casually into my coat lapel into thinking that a real “cinnamon” was making for my neck—but many loch flies undoubtedly are capable of improvement in design. This will perhaps come in time from a closer study by anglers of the entomology of the loch. Such time will, I think, be hastened when the cult of the dry-fly spreads in good earnest to the loch fisher. Anglers, and especially Scottish anglers, are conservative in their instincts, but a chapter in Mr. Halford’s last work, “The Dry-Fly Man’s Handbook,” should go far to break down an unimaginative conservatism. The chapter referred to consists of three articles: (1) “Dry-fly at Blagdon,” by Mr. Hugh T. Sheringham; (2) “Sea-trout Loch Fishing (in

Harris) with the Dry-fly," by Mr. A. C. Poole; and (3) "Dry-fly on Lough Arrow," by Mr. John Henderson. This is not the moment for a discussion of these interesting papers, the relevant point being that, to secure results, it was found necessary to evolve precise imitations of the loch flies upon which the fish were accustomed to feed. I do not think that any great development of loch fly construction has yet followed upon these writings, but it is more than probable that in time they will greatly influence it. Every fresh reference to the subject will help to carry reform a little further.

Of the shape of salmon flies it may briefly be said that there has been a steady development towards a more graceful pattern. Perhaps the old flies were not really so suggestive of winged caterpillars as the engravers of them would have us believe, although Younger advocated a fly of that type. Perhaps the unwieldy and ill-constructed hook hampered the artist; perhaps the salmon of those days were not particular, but I think there is no question that as a thing of beauty in its construction and shape—whatever the fish conceive it to be—the modern salmon fly is susceptible of very little improvement.

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In some waters, of course, salmon are fished for with flies that do pretend to be an imitation of natural insects—the March brown and green drake are perhaps the best known examples—and as regards these the same rules as to shape will apply that apply to trout flies.

* * * *

It remains to treat of the colour of the fly, and I fancy in regard to this matter the inquiry can be conveniently limited to these questions: “Does the fly-dresser really attempt to simulate the precise colour of the natural insect which he has it in his mind to copy?” and “Is such simulation likely to stand him in good stead?”

Just as was found to be the case as regards “size,” and again as regards “shape,” so as regards “colour” one finds that there are two schools of opinion. The first is fairly represented by Stewart with his three “spiders,” black, red and dun, and the second by Francis Francis with his plea for accuracy of imitation. Both schools, of course, claim nature as their guide, Stewart, however, as an impressionist painter, and Francis as a kind of entomological pre-Raphaelite brother. It is suggestive enough that in the main we in

Scotland have followed, if one dare hardly say "marked time," with Stewart, while such advance as has been made by the devotees of the floating fly in England has followed the lines of the Francis ideal.

So eager has been the search for materials with which to counterfeit accurately the natural fly that tribute has been laid upon the feathered creation of every quarter of the globe; four-footed creatures, large and small, have yielded up their wool or hair; inanimate grasses, cocoanut fibre and cork, india-rubber and celluloid, even fish scales, have been requisitioned and used, all in their natural state, or dyed by the artful fly-fisher with aniline dyes to the shadow of a particular shade, to circumvent the alleged uncanny intelligence of the trout. One seeks for the necessity of all this painstaking care, and it is not a little comforting to the reactionary Scot to come upon distinct evidence of "hedging" in the most recent works of the authorities.

It is not likely that a claim to be the High Priest of Purism advanced on behalf of Mr. Frederic M. Halford will be lightly rejected by any intelligent angler. The presence of wings, for instance, in sunk fly patterns puzzled him, and

he doubted the efficacy of fishing a sunk fly over a feeding fish that will not take a floating fly. Mr. G. E. M. Skues may be allowed to debate that point. What interests me as a student is that in his earlier work, "Dry-Fly Entomology," Mr. Halford gave the weight of his authority to a series of one hundred of the best patterns of fly, and in his later work, "Modern Development of the Dry-Fly," he cut the series drastically down to thirty-three patterns. The views of so scrupulous an author must be of the greatest value, and in his last book, "The Dry-Fly Man's Handbook," he reiterates them thus: "I am desirous of placing on record here my own views of the colour question, views which I am told are shared by many others. . . . While believing that the trout or grayling in the water can to some extent differentiate tones and colours, I do not think that the presence or absence, for example, of a tinge of brown in the body of a female iron-blue spinner would suffice to account for a trout which is feeding on the natural insect (*Baëtis pumilus*) represented by this pattern fastening to the one with this brown shade and coming short to one dressed with claret body like the old-fashioned pattern." So much for practical fish-

ing. But Mr. Halford goes on, "every fisherman, however, who has devoted himself to the entomological side of the question, and has also been interested in working out and dressing patterns of flies, must feel a great satisfaction in turning out one which is a truer and better imitation of nature than the generality of those he had seen before." So much, I would say, for Art.

Having in the course of this discussion mistakenly attributed to Sir Herbert Maxwell a theory that fish were colour-blind and stated that Sir Herbert had since to a great degree recanted from that opinion, Mr. Halford very properly printed the following corrective note: "Sir Herbert Maxwell takes exception to this and writes 'First, I have never advanced the theory that fish are colour-blind; secondly, I have never recanted any opinion previously expressed on the subject.' He then suggests for observation and experiment three alternative hypotheses:— '(1) That salmon and trout are insensible of colour. (2) That like human beings they cannot nicely distinguish colour in an object presented to them between their eyes and the light, which is the case with a fly, natural or artificial, on or near the surface of the water. (3) That if they

have the power of distinguishing colour in flies so presented to them, they show indifference to it, provided that the shape and movement of the lure is life-like, and as regards trout provided the shade of lure (light or dark) approximates to that of the natural insect.'” Having thus stated Sir Herbert Maxwell’s suggestive lines of inquiry, Mr. Halford left them undiscussed. The reader may conclude that however erroneously (entomologically speaking) a fly may be coloured, in Mr. Halford’s opinion it makes at times no great difference to the fish, though the lapse from accuracy may outrage the artistic sense of the angler. This is indeed a concession, but another recent authority goes even further.

I have quoted Sir Herbert Maxwell of set purpose because he raises incidentally a point of great importance, a point to which Mr. Leonard West, in “The Natural Trout Fly and Its Imitation,” also adverts—I mean the appearance of the fly as seen against the light. But it is worth noting how completely Mr. West surrenders to the “practical” view held by Stewart and many other good Scottish fly fishers. Indeed these words conclude his book:—“To achieve success the angler must always aim at such an

imitation as is an exact counterpart of one fly, or else an artificial which is so typical in form and colour that it may be readily mistaken for at least 'an insect'; in other words, it is an artist's interpretation of the general or composite appearance of several insects, and if this is studied *from the fishes' point of view*, success will be steady and not the spasmodic success which follows more haphazard methods."

It is, it will be observed, the impressionist whom Mr. West here dignifies by the name of artist, not the plodding and painstaking copyist, and the reader will gather generally from what I have written that in the opinion of even the purest of English purists something may be said for a "fly" that makes no pretence to have an exact prototype in nature. There is good reason to suspect that any human effort to imitate a natural fly with artificial materials must prove an inevitable failure, and fortunate it is that we can present something to the fish that they are quite prepared to accept (now and then) as a substitute for the real thing.

It is possible that frank recognition of the simple truth might lead to some novel and really useful developments in the art of the fly-dresser,

which has, it may be, far too long been occupied with the pleasing but—as Mr. Halford latterly admitted—useless refinements of the “true to nature” school. The difficulties are insuperable, for, to recapitulate, it would seem that as regards “size” alone can the fly-dresser really approximate closely to nature; “shape” is beyond him so long as a steel hook and a gut attachment are indispensable; and finally, with respect to the present argument, a whole host of considerations, abstract and concrete, defeat his efforts at attaining natural “colour.”

Perhaps opaque is a better word than solid, but this adverse quality, which is inherent in the materials of which an artificial fly is composed, is fatal to the attainment of correct colour values by the fly-dresser. This opaqueness is not in the least obvious in the fly as seen against a dark background, or with the light full on it, but is apparent when the fly is held against the light. There are few natural insects which do not have translucent bodies, and the solidity of the hook defeats all attempts at imitating translucency. The nearest approach to it is got by the free use of tinsel whereby the reflected lights are made to encroach to the maximum on the solid silhouette of the body.

But apart from the steel hook, even delicate feathers are opaque compared with the gossamer transparency of an insect's wings, and one requires no special artistic knowledge to realise how impossible it is, against the light, to express the tone and colour value of a transparent in terms of an opaque substance. The practical Scot long ago realised this, and that is why Stoddart and Stewart laid it down emphatically in the latter's words: "We wish to impress very strongly upon the reader the *necessity of avoiding bulky flies.*" Their effects of gossamer airiness were secured by the transmission of light through sparse wings and scanty hackle, and I believe that the irregular hackles alone of Stewart's "spiders" were sufficient to simulate the wings as well as the legs of a multitude of the lesser river flies.

In all the talk and controversy of wet-fly versus dry-fly fishing I cannot trace that any writer of authority informs us definitely how far trout can judge of an object, immediately overhead, whether it is above the surface, on the surface, or below the surface of the water. Is there any reason to suppose that the trout recognises precisely where water ceases and air begins without making practical investigation? Many times at

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Loch Leven, in a big tumbling western sea, I have had trout take my fly hanging in the air between two crests, as freely as others have taken it when coming through the body of a wave. In a rough stream, I would ask, how can trout possibly realise all the surface changes? Yet they rise in such rough streams freely not only at a small fly submerged but at a small fly dangling trippingly on the crests of the ripples. In a calm piece of water I concede they may distinguish between a floating and a sunk fly, but wherever there is a ruffled surface I fancy it does not greatly matter to the trout whether the fly is above, on, or below the surface, and hence Mr. Halford's candid surprise at sunk flies having wings may be out of place. Rather may surprise be expressed at his heavily hackled floaters possessing upright wings, for it is odds if the trout ever see much more than the hackles. I do not lay any great stress upon this point which has often puzzled me, but this discursive preamble naturally leads to the next question in regard to colour—How do things seem to the fish?

“If asked what is the colour of a common house fly as seen by the fish,” says Mr. Leonard West, “it is probable that the great majority of

fly-dressers would unhesitatingly reply 'dark grey,' and although this may approximate to the truth, from our point of view, if we consider the conditions and circumstances under which the house fly appears to the fish, the reply is probably 'quite wrong.' Let us suppose that the conditions are bright sunshine and wind, and the fly floating on the surface. Viewed *from below* in sunshine the house fly is orange, black and ochreous in colour, due to the light coming through it, and the wings are prismatic at almost any angle. When the fly alights on the water the hairs which clothe its body carry innumerable small air bubbles, which float the fly lightly, but the consequent surface tension, reflection and refraction of the water viewed from below give an appearance of silver and gold around the fly, mingling with which is a strong suggestion of prismatic colouring, the colour scheme having a focus of interest in the silver and red of the eyes and head." This description as well as any other will suggest to the reader the extreme difficulty which awaits the fly-dresser who attempts to reproduce the refinements of colour displayed by a natural insect which alights on water. Mr. West's indication that a drowned fly approximates

more closely to the insect as we see it, while of special interest to the wet-fly fisher, brings us to another aspect of the question.

In an article called "From the Fishes' Point of View" printed in "The Salmon and Trout Magazine," Dr. Francis Ward pursued still further the entrancing subject treated of in his book, "The Marvels of Fish Life." One has to assume, of course, that the fishes' point of view, as regards power of vision, and kind of vision, is not materially different from the human point of view, which may, or may not, be a large assumption for anything I know. Be this as it may, Dr. Ward makes some striking observations. "The salmon fly," he says, "is either an opaque object, rimmed round with iridescent hues, a dazzling combination of metallic sparkles and brilliant colour, or a grey silhouette—according to the position from which it is viewed."

This will apply equally to the trout fly, but in lesser degree, and I think it may perhaps explain why it is that one side of a loch or a river fishes best in the morning, afternoon, or evening, as the case may be—the fly being presented to the salmon or trout from the same angle but under greater advantages of lighting at one time than

the other—and why it is, as frequently happens in loch fishing, that the bow rod or the stern rod gets all the chances in the forenoon or afternoon, as the case may be. Although both anglers are fishing in the same general direction, each is drawing his flies at a different angle relatively to the light.

But Dr. Ward's main proposition is that the trout, looking upwards, has only a very limited circle of light above him—greater or less in radius as he is much or little under the surface—within which any object presents to him its true outline. Beyond that circle the surface acts as a mirror, reproducing everything below it and obscuring (for the trout) all that one might expect to be seen at an upward angle through and beyond it. I have seen trout act in such a way as to suggest doubts of the completeness of this alleged obscurity, but to human vision the result is as Dr. Ward states. Suppose the trout to be three feet under the surface, its "horizon" would be a circle overhead with a diameter on the surface of the water of rather more than six feet. If it were six inches below the surface its "horizon" would be limited to a circle of rather more than one foot in diameter on the surface. This suggests that

an angler should cast his flies with some accuracy over a feeding trout; but the point at present is to see how the fly appears within the trout's "horizon," or rather within the cone of light radiating from the trout's eye to the surface. In Dr. Ward's opinion, "when the fly is within the cone the direction of the light is immaterial, for it merely appears as a silhouette." I gather from this that here considerations of colour would be unimportant, but accuracy of shape, if not size, would be essential.

But colour is of importance in respect of a fly seen beyond the cone, and it has to be observed that save just beyond the rim of the cone only those parts of the fly beneath the surface are seen by the fish, the hackle and hook, to wit, and not the wings of a floating fly, but of course, in the case of a sunk fly, the whole construction is seen. It will thus depend upon the relative positions of fish and fly with reference to the light whether the full value of the colour of the fly (or, in a floating fly, the colour of its legs!) is seen by the fish, and Dr. Ward attaches importance to the necessity of having a certain degree of glitter and flash in the general colour scheme.

I need not dwell further on reflected lights.

Enough has been said to show the hopelessness of trying to copy nature where one cannot even judge of the accuracy of the copy.

Finally, one cannot accuse Dr. Ward of being a purist, for, though he says : " I quite agree with the fly-dressing enthusiast that too much trouble cannot be taken in copying the living fly," he immediately goes on, "After my observations below the surface of the water I would say too much attention is paid to finesse in colour, and too little attention as to how the artificial fly sits on the water when attached to gut."

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I have tried in these rather discursive notes to weigh with an open mind the various considerations involved when the angler sets himself to circumvent fish with the counterfeit presentment of a natural insect. The reader may be left to judge for himself as to the relative importance of size, shape and colour in the imitation.

A Sea-Trout Problem

CHAPTER V.

A SEA-TROUT PROBLEM.

A CORRESPONDENT in the issue of "The Fishing Gazette" of date January 18, 1919, raised an interesting question regarding the life-history and habits of the sea-trout. He referred to "the subject of what causes sea or white trout to frequent certain fresh-water lochs or rivers and reject others where the means of access from the sea are just as easy as those they do frequent."

As an illustration he gives Lough Corrib, in which he says there is no authentic instance of the capture of a sea-trout, although salmon ascend to it freely by the Galway river. He wonders whether the presence of pike in the lough can account for the absence of sea-trout, and also hazards the suggestion that the limestone strata which form the bed of the lough may be an adverse factor.

I have always understood that limestone formations are extremely favourable to a high average production of the natural food supply of our

fresh-water fishes, particularly of trout. It seems very improbable, therefore, that this factor by itself could affect a stock of sea-trout except in so far as its presence or absence might affect the local commissariat.

As for pike, it is certain that they at any rate cannot drive away or exterminate a stock of sea-trout in any considerable loch. Every season I am accustomed to catch both pike and sea-trout on the same fishing ground. No doubt each species of fish has its "season," and doubtless each has its own particular haunts where the greatest numbers of each are naturally to be looked for; but the fringes of the one kind overlap those of the other, and if one is fishing with a trolling lure there are miles of "ground" where the capture of one species of fish may be almost as certain as that of the other.

But these are minor issues. It is with regard to the correspondent's main proposition that I am most concerned.

Many anglers have for long been puzzled to account for the habit which sea-trout apparently have of turning aside early in their ascent of any river into one or other of its tributaries, instead of continuing their progress up the main stream.

Most anglers in their own districts will be able to point to an instance of this foible of the fish without perhaps being able to explain it.

Out of curiosity some time ago I wrote letters to several of my friends stating the problem and asking if they could throw any light on the subject. They all freely admitted the fact, but the explanatory replies received varied considerably. One opinion was that the sea-trout, being less vigorous a fish than the salmon, instinctively turned aside from the heavy volume of the main river to seek an easier ascent in the tributaries. Another was that the waters of the tributaries, being more highly aerated than those of the main stream, might afford to the fish greater advantages in the development of their ova. Still another suggestion was that as sea-trout never ascended rivers very far above tidal waters, the nearer tributaries offered them the most convenient spawning grounds.

Being unable to satisfy myself of the conclusiveness of all or any of these suggestions it occurred to me to approach the problem from another angle.

One may take it that the chief aim in life of the trout is to find adequate sustenance—like

other mortals he eats to live—and if he can better his fare in any way he, like the rest of us, is by no means averse from doing so. Thus we find the fry and the yearlings and the two-year-olds of the upper tributaries gradually falling back, as the competition for food becomes pressing, to the reaches of the main stream. These in due course ascend again to spawn, and this ascent and descent indeed forms the economic life of the river. It has been proved also that the fish at spawning time return again, each group apparently to its own special nursery.

As it is with the fish in the tributaries so is it with the trout in the main river. If the feeding there is not adequate trout are found descending to the tidal waters to seek a richer diet. Instances of such enterprise on the part of the trout have been observed in the estuaries of even our greatest rivers. But this downward migration to the sea is most common and practically universal where the available food supply in the small and barren streams of the Orkneys, the Hebrides, and the western mainland of Scotland is manifestly incapable of maintaining the stock of trout hatched in them.

It is clearly not by accident that in such waters

are also to be found the most prolific shoals of sea-trout.

From generation to generation the trout have thus descended and ascended, the migratory instinct—which all trout share—has become developed in them to its fullest extent, with the result that local races of sea-trout have become evolved.

It seems to me that if one can accept the foregoing propositions one is already on the fringe of a solution of our problem.

If we imagine to ourselves any considerable river with a group of upper tributaries and a series of lower tributaries, and select an upper tributary, A, and a lower tributary, B, the former practically one of the head waters of the river and the latter entering the main stream practically within the tidal reaches, we shall have the necessary basis for discussion.

I think it is clear that the trout of tributary A will fall back as suggested above to the main river for their enhanced larder, and, there obtaining it, will see no necessity to travel further afield down stream. Their migratory instincts will have become developed, but only in a minor degree, and as they were born, as we may put it, ordinary

fresh-water trout, ordinary fresh-water trout they will remain.

But the trout of tributary B have a different history. Descending, as we may assume they will, to the main stream they will find themselves at once in a semi-marine environment with a richer fare spread before them than could be conceived of by their brethren in the moorland burns. By an easy transition our friends of tributary B will become accustomed first to brackish and then to salt water, and will gradually acquire the distinctive scales and colouring of sea-going fish. In other words, they will, in rate of initial growth, appearance, and maximum size become sea-trout. Yet these trout must spawn in fresh water, and in order to spawn they will return to the same stream—as we know they will—in which they were reared. And so with each succeeding generation. Thus it is, and I think in no other way, that our imaginary tributary B becomes famous as a sea-trout stream.

I do not know if many of my readers will accept this conclusion. Obviously it is based upon several assumptions, but I think these are not extravagant. On the other hand, acceptance of the conclusion will help to explain many other-

wise mysterious facts in the habits of trout and sea-trout.

Perhaps the greatest stumbling-block to acceptance of my solution will be that its acceptance also implies acceptance of the fact that sea-trout are only trout after all. This theory I have discussed fully in a former work.*

* "The Sea-Trout: A Study in Natural History." (Sherratt and Hughes: 1916).

Are They Kelts ?



CHAPTER VI.

ARE THEY KELTS?

PERHAPS a bald statement of a day's fishing may be as satisfactory a method as any of introducing the problem I now propose to discuss.

Two or three warm days in April after the Arctic rigours of March make the planting of potatoes and the "sheughing" of cabbage sets seem to the keen angler a futile and a thankless task. A day on the loch is clearly suggested; tackle is made ready; the boat is launched and soon we set our course for more prolific shores than the bay wherein nestles the village.

We troll—for luck—from one trolling rod, a two-and-a-half inch brown and gold phantom, and from another, a three-and-a-half-inch blue and silver, our little friends, the natural minnows—far the best of trolling lures—being not yet in evidence in the river. Suddenly the rod mounted with the blue and silver phantom jerks impatiently and the angler in the stern reels in an actively kicking whitling, which another of the crew nets

and incontinently knocks on the head. "He's in braw condition yet, Andra," says he. "No that bad either," agrees Andra, "but the best yins we'll get on the flee, if they'll rise." And so our course is resumed in a westerly wind that is growing ever colder and more squally. But in the lee of the islands is shelter, and so the "minnows" are brought aboard and the fly rods taken in hand. One would suppose that here, if anywhere, off that patch of rushes, a few flies might be found daring enough to tempt the upper air, and at last I see one of the duns—an olive, I fancy—cock up its wings about casting distance ahead of the boat. I throw my flies towards it and am at once rewarded with a dashing rise of a nice three-quarter-pound fish. It proves to be another whitling, well-shaped and silvery and, to all seeming, as fat as a pig. Two more fall to the fly, and these, with the earlier minnow-taken fish, constitute our ultimate basket of four whitling, weighing three pounds.

The point at issue with many will be, whether these fish, whitling or young sea-trout, taken thus in April in a fresh-water loch, can reasonably be held to be "kelts" or not. With this question may be conjoined that other, whether the sea-

trout taken in spring in the tidal reaches of many of our rivers—such as the Beaully—are not also “kelts.”

For a proper understanding of the matter it is necessary to have a clear idea as to what these spring-caught sea-trout really are. They are—one may say—all small fish. “In some rivers,” writes Mr. P. D. Malloch,* “the autumn months are the best for catching them, while in others they take more freely in the spring. In the Tay and the Earn spring is the best time. On one occasion, on the 10th March, I caught with fly eighty of them, averaging three-quarters of a pound in weight.” Nearly everywhere else, where the fish are got, they are of the same general class. What, then, are they? The answer, in my opinion, is as follows.

Towards the end of April and in May the sea-going sea-trout smolts make for the estuary where in a few months’ time, usually about three months, they become whitling. Any time after July, therefore, the shoals of these young sea-trout, or whitling, ascend to the highest tidal reaches of their rivers, such as the Tay or the Earn, or into fresh-water lochs not far from the sea, such as

* “Life-History and Habits of the Salmon, Sea-trout, Trout, and Other Freshwater Fish.” (Adam and Charles Black, 1912.)

Loch Lomond, the shoals ascending earlier or later, as the case may be, according as the smolts descended earlier or later. Some of those that ascend our greater rivers may remain in fresh water over winter, but I think the great majority return early to the tidal reaches. It is fairly certain, however, that all those which ascend to a fresh-water loch remain in it over the winter months. Not till May, usually, have the last of them returned to the estuary, although from January onwards they keep dropping down to it intermittently.

The fish, then, whose capture is described at the opening of this chapter, are clearly some of those whitling which, having ascended to the fresh-water loch in the later months of the year, have remained over winter in it and have not yet descended to the estuary. Such fish as are caught in the tidal reaches of our rivers are of a more varied class. Their numbers consist, first, of those portions of the shoals of young fish (for the whole shoal does not ascend) which did not in the autumn months ascend to fresh-water in the rivers, or to the fresh-water loch, and, second, of those fish which, having ascended as described, have already returned to the estuary.

The next point to consider is the condition of these young fish when caught in spring.

Taking our loch-caught whitling first, it has been my experience in Loch Lomond—and I imagine the conditions must be the same in other of our greater lakes—that the fish fall off very little in condition, if it can be said that they fall off at all, before they descend to the estuary in spring. The feeding in such lochs is rich and varied and the whitling is a voracious fresh-water feeder. I have always found the vestiges of food in quantity in the stomachs of those I have examined. I am not prepared to say that their condition, when they descend to the estuary, will be as good as that of those fish which remained over winter in the estuary, but it will be little short of it. As for these estuary fish, their condition must be beyond question because they have had an uninterrupted course of marine, or semi-marine, feeding. On the whole then it is reasonable to conclude that there is nothing in the condition of the fish in question to warrant the suggestion that it is unsportsmanlike to capture them in the spring months.

There is another consideration, however, which requires to be taken into account.

Mr. Malloch has put it on record, in his book already referred to, that whitling do not spawn. In this he is not quite accurate. I do not say that all whitling spawn, but there is no room for doubt that some of them do. I have taken female whitling in the act of spawning and have stripped them of their eggs in connection with hatchery work. That no doubt might be entertained of the fish actually being whitling I examined their scales and confirmed the matter. Thus certain of the whitling which may be caught in fresh-water loch or tidal waters may very well be spent fish—or “kelts”—and, as such, are certainly in no condition to be taken by the angler. As to these fish the angler must judge before he kills them, otherwise the law may have something crucial to say in the matter.

Now nobody, it may be assumed, likes to be accused, however distantly, of performing an illegal act. It is thus necessary to inquire what the law is. I have too often found it to be the case that those who argue most hotly in such matters as this have never taken the trouble to refer to the Statute book. The law, so far as it applies to Scotland, is embodied in the twentieth section of the Salmon Fisheries (Scotland) Act, 1868, which states:—

Every person who shall wilfully take, fish for, or attempt to take, or aid or assist in taking, fishing for, or attempting to take, any unclean or unseasonable salmon, or who shall buy, sell, or expose for sale, or have in his possession, any unclean or unseasonable salmon, shall be liable to a penalty not exceeding five pounds in respect of each such fish taken, sold, or exposed for sale, or in his possession, and shall forfeit every such fish

The penalty is not incurred if the fish be accidentally taken and returned forthwith to the water "with the least possible injury." The word "salmon" is declared by the Act to include sea-trout as well as salmon; but it will at once strike the observant reader that the whole effect of the section must depend upon whatever interpretation is placed on the words "unclean or unseasonable." On this point the Act gives us no indication whatever. It is apparently left to the sheriff of each county to put his own interpretation on the words.

The English courts, faced with the same difficulty in the English Acts, have taken a different view of this matter from that generally accepted in Scotland. They have dealt separately with

the two terms "unclean" and "unseasonable," and have held that an "unseasonable" fish means one "caught during the close time," while they interpret an "unclean" fish to be one caught "on the eve of spawning, or in the act of spawning, or one that has just spawned, and has not migrated to the sea." In the thirty or forty "kelt" cases with which I have had to deal in the Scottish courts, the view has generally been advanced, and, I must say, has generally been accepted by the Sheriffs, that the phrase "unclean or unseasonable" should be read as a whole, the terms used being but variations of the intended meaning of a fish in bad condition, a view warranted by the earlier statutes. Therefore the definition might run: "An unclean or unseasonable salmon is a salmon which is on the eve of spawning, is in the act of spawning, or has not fully recovered from the effects of spawning."

Applying the law, then, to the case of our whitling, the factor which must definitely, and without room for any question, decide their status is the factor of spawning. If the whitling has spawned in autumn and is caught in spring before returning to the estuary, or even when it has returned there but is still in poor condition, one

must accept the fact that it is legally a kelt fish and ought not to be taken by the angler. If it has ascended to fresh water in late autumn and has not spawned, then in my view its lawful capture is unchallengeable. But as some whitling may be kelt fish the onus, I think, ought to lie upon the angler of proving that the fish he catches is a "clean" fish. This would, or might, prevent the wholesale slaughter of these very sporting, but admittedly immature sea-trout.

After all, angling is a sport and the angler ought to pursue his sport in the spirit of a sportsman. The late Mr. Hamish Stuart made rather a point of this. "I always return herling, unless I wish one or two for the table owing to the delicate character of their flesh." So he wrote of "herling," which is a localism for whitling, and he clearly meant that he returned them to the water whether kelt or not. But in a later page of his book—"The Book of the Sea-Trout"—he writes that on one occasion, in April, he caught, and kept, "twenty-two sea-trout (19½ lb.—best fish 2 lb.)," and calmly adds: "It will be observed from the weight of the fish that they were mostly small, in fact, finnock." Now "finnock" is just another localism for whitling and so we learn that

Mr. Hamish Stuart had really no compunctions about killing some twenty of them in April.

The truth is that in this matter each angler must be a law unto himself. Unless the whitling has obviously been a spawner, it lies with the angler at his own discretion to return the fish or not. Most of them are fat, well-shaped fish, and as "game" as when they entered fresh water in the autumn.

I do not think it necessary to discuss the culinary aspects of the question. Opinion varies greatly as to the suitability of any particular substance for food, and some people can eat anything. One may admit however, that the flesh of spring whitling, while perfectly wholesome, is perhaps not so palatable as it would be were the fish to be caught clean-run from salt water.

Concerning the Rise

CHAPTER VII.

CONCERNING THE RISE.

IN ordinary wet-fly fishing in loch or stream the sequence of events leading up to the basketing of one of the sporting fishes may be taken, I think, to include the casting of the fly; its alighting on the water; the rise of the fish; the strike; the hooking; the playing; the netting or gaffing and the final knock on the fish's head.

Which of these various items, in itself and apart from the problems it presents, is of the most pregnant interest is perhaps a debatable point, but of them all "the rise" has long made special appeal to me. The pleasurable mixture of surprise and delight with which I see a fish "come at" my fly becomes in no degree diminished with the years.

The feelings referred to have nothing whatever to do with one's having (by good luck or good guidance) selected the "richt flee," or delivered it with skill, though an additional sense of satisfaction is no doubt attributable to both these facts. Apart altogether from the angler's personal

abilities, it seems to me there is ever-abiding matter for wonderment in this, that the wary trout, sea-trout or salmon should be deluded into "rising" by machinery which the angler himself perceives so plainly to consist of rod, line, and cast, and a steel hook garnished with tinsel and feathers.

This interest in the rise, whether one sees the fish actually take the fly or not, often leads one to wish at times that one could more clearly see the whole manoeuvre. Perhaps if we could see it one of the greatest charms of fishing—its mystery—would be gone. But curiosity on the subject is no doubt pardonable, and I have often sought to satisfy it by endeavouring to catch the earliest glimpse of the approach of a taking fish.

In a river, if the current be even-flowing, it is sometimes possible to see the whole performance, and on a loch now and then a peculiar disposition of the light will enable one to perceive the fish approaching the fly while still a considerable distance from it; but hardly ever in loch fishing will it be possible, I think, to follow the fish's movements from the first instant of its attention being attracted by the alighting of the fly. Yet on the whole a good deal of knowledge of the

subject must be generally available amongst anglers, though in reading angling books I have often been disappointed to discover how little real information is given on points that are of interest.

One would have imagined that by this time the different types of rises of the different species of fish would have been reduced to classes and sub-classes, but beyond the "tailing," "smutting" and "bulging" habits of trout dwelt upon by Mr. G. E. M. Skues no particular attention, so far as I know, has been devoted to the subject. Let me not do an injustice to the Scottish poet-angler, who classified, and immortalised, the rise of *salmo irritans*.

While I cannot recall at the moment any attempt made to discriminate between the rises, and the different kinds of rises, of the salmon family—whether *salar*, *trutta*, or *fario*—it is significant of the interest taken in the subject by a great angler that in "A Book on Angling," that classic work of Mr. Francis Francis, the following passage is interjected when the author deals with the question of the strike. "I have watched hundreds of fish rise on different rivers," says Mr. Francis, "being desirous of studying how a

salmon rises and takes, and in the majority of instances the rise is much quieter than would be supposed; occasionally, perhaps, there is a rapid, bold dash at the fly, when a considerable pother is created, but more often than not the salmon rises steadily to the fly, puts his nose above water if the fly, etc., is on the surface, and then goes down head foremost, with a flourish of his tail to send him down. It is the flourish of the tail that usually makes the splash; if the fly is under water, as it mostly is, you seldom see more than a boil." I should like later to elaborate this very general description, but in the meantime the passage is worth noting to show that Mr. Francis considered the matter to be worthy of careful study.

Some overlapping is inevitable if reference is to be made in turn to salmon, sea-trout and trout respectively, but perhaps something that is said of the salmon may be found to apply to all. Personally I pretend to formulate no theories and shall simply follow the subject where it seems to me to lead.

(1) THE RISING SALMON.

Perhaps too much has been made of the question whether salmon "feed" in fresh water or

not. What really concerns the angler is the fact that the fish show a disposition to accept more or less readily the lure he offers them, whether it be a natural prawn, worm, minnow, or fly, or an artificial counterfeit of one or other of them. As I suggest elsewhere* there is no good reason to doubt that a salmon in fresh water retains an intermittent inclination to feed, though whether the resulting effect upon his activities leads to sustenance or not is immaterial at the moment. My present point is, that the salmon, seeing the angler's lure, conceives it to be something eatable, and consequently, when he is inclined to do so, he attacks it. In short, I have little doubt that the chief, if not the only, reason why a salmon rises to the angler's fly is because he believes it to be edible, and he wishes to eat it. The same motive, it will hardly be denied, influences both sea-trout and trout.

Comparatively little is yet known of the habits of salmon while roaming in the sea. That they do roam for considerable distances along the coast is known, but that they travel far from land at any time, or how far they thus travel, is doubtful. Their chief food is known to be her-

* See Chapter IX.

ring, and doubtless salmon swim deep or near the surface, inshore or out to sea, according to the lead given them by the herring. In intermittent yachting cruises on the West Coast of Scotland extending over a good many years I cannot say that I have ever seen the rise of a salmon, or seen one springing, in deep water, nor have I heard of such an incident from cruising angling friends. It is probable, therefore, that "rising," as that action is known to and recognised by anglers, is not a general habit of salmon when in the sea, and that their actions and evolutions are strictly referable to the kind of food they eat, the prey, in fact, of which they are in pursuit.

If salmon, then, rise freely on returning to fresh water, as we know they do, they are possibly simply resuming the habits which they had ample time to learn during their previous two years' residence in fresh water as parr and smolts.

In speculating idly—as one does at times—upon the ways of fish I have sometimes found myself wondering whether salmon quite realise how big they are. A 2 oz. smolt may grow to 5 lb. weight in 14 months, and one marked fish I had to do with increased from 10 lb. to 20 lb. in weight in 18 months. Such rate of increase

suggests something of Alice when she nibbled the cake in Wonderland. Her bulk but not her mind was changed. The fish lie, too, at least in lochs, and rise to the smallest flies, in just the same shallow spots which they were accustomed to frequent, and where they fed, as parr. Hence it is perhaps not very extravagant to assume that the grilse or salmon, unconscious of his present bulk, is innocently resuming his old habitat and former habits.

It is of course when the salmon is inshore in the neighbourhood of his parent river—not in the open sea—that he is often seen leaping, and such places are so numerous as to require no special mention.

Why salmon leap in this way—I mean in the sea—is not definitely known. Several reasons, more or less plausible, have been advanced; amongst others, that the fish is endeavouring to free himself of sea-lice, which are generally assumed to be irritating parasites, although we have no means of knowing to what a pitch of irritation they may drive the fish. I fancy very little; certainly to nothing like the extent of fear and exasperation that the blood-sucking lamprey drives them. Their convulsive leapings plainly

show that they are attempting to throw off their enemy. I rather think that salmon so leap at the mouths of rivers from a superabundance of pent-up energy—of irritation, if you like, on account of compulsory detention through 'drought—but more probably it is just the energy of a lusty condition finding vent for itself in action.

If on the whole the reason "why" salmon rise, either to a fly, or, in other cases, where the rise is not a "feeding rise," must to a great extent rest upon theory, the explanation of "how" salmon rise can be definitely got at, one would think, by careful observation. To this end the "non-feeding rises" may be of assistance, and that is partly why they are mentioned in this connection.

Salmon have been classed as surface swimming fish by the authorities, and they can, I understand, be seen in places actually approaching the coast. There is a description given by Yarrell of an Irish salmon fishery, east of Ballintoy, between Ballycastle and Portrush, on the north coast of Antrim, where watchers are set on a height to signal the approach of the fish. When the signal is given the net already projecting into the sea is swept round and they are drawn to land. And this surface swimming habit of the

salmon is not confined to salt or estuarial brackish water, for in our greater fresh-water lochs, such as Loch Ness and Loch Lomond, what are by local boatmen called "travelling fish" are often seen breaking the surface. Sometimes only the back and dorsal fin may show for an instant; sometimes the fish may wholly emerge from the water; but it is always seen to be swimming on an even keel and holding a straight course. I have never seen such fish "jump," in the sense of springing from the water and falling in again at practically the same spot, and it is probable that they sometimes break the surface, or even leave the water, quite inadvertently. The "rise" in such cases is in reality nothing more than a glimpse caught of the swimming fish.

On detention at the mouth of the river—or indeed on his detention in any pool during his ascent of it—the salmon indulges in a sort of playful gambollings. He may sometimes be seen rolling over on the surface, much as a porpoise rolls, or he shoots slantwise from the water, falling in again on his side. But his most usual habit, I think, where the water is comparatively deep, is to throw himself almost vertically into the air and to fall back tail first without turning.

The tail can sometimes be seen in rapid motion when he leaves the water, and this suggests that the "rise" is not the outcome of a sudden spasmodic jump, but is the termination of a previous spurt of quick swimming. I have sometimes seen a fish making this short preliminary rush in a pool before he broke the surface.

Three photographs of "jumping salmon" in Mr. Calderwood's book, "The Salmon Rivers and Lochs of Scotland," show fairly well the types of rise I speak of, but I do not know under what conditions they were taken.

It is also relevant to our inquiry to point to the action of a salmon in surmounting an obstacle in a river. It prefers "swimming" up to "jumping" up in such cases, a recognition of which fact has materially altered the plan of modern fish-passes.

The explanation, then, of "how" a salmon "rises" will have already suggested itself, namely, that the fish comes to the surface by swimming. I admit it may seem rather puerile to direct the attention of the angler to this simple fact—if it be a fact—but possibly some anglers have never thought of the matter at all, and some appear to imagine that the fish, being impelled thereto by a vague mixture of curiosity, pugnacity

and acquisitiveness, hurls himself blindly at the angler's lure. Such tentative observations as I here offer may suggest fruitful thinking in others, for it seems to me the matter has a material bearing on two very practical angling questions, the drawing of the fly and striking.

It is fairly certain that a salmon, whether in loch or river pool, does not cruise about at large, but prefers to take up a position—which anglers call his "lie"—at some spot near the bottom. When an object at which he may rise comes within range of his vision his approach will be slow or impetuous according to his inclination to "take" it is less or more. The flatness or sharpness of the curve of the rise—or, in other words, the trajectory over which the fish swims—will depend rather on the distance of the object from him when, having seen it, he moves to attack it.

In a stream I have seen a salmon come for a considerable distance from the comparative quietness of a pool into the rough water at the neck of it where my flies were playing and coolly select the middle one of three. In a loch I have had a salmon follow my dropper with his mouth wide open, and dorsal fin and tail both cutting the

water, for the full distance of the draw of a long cast ere he snapped the fly. These are instances of rises with the curve so flat as to amount almost to a straight line. In each case the fish swam slowly up to the fly and "took" deliberately. As a contrast, once in a river I cast over five salmon which were lying together in a pool, with little expectation that any would rise. One did, however, and removed my fly in the process, but which of them had it I could not distinguish, for they were all about the same size. This rise described a perfect half-circle in about six feet of water, and was made at lightning speed. On another occasion, in a loch, a fish rose in about four feet of water close to the shore so abruptly and in so sharp a curve as to appear to come up vertically. The fish—a 15-pounder—had to turn on his side to go down with the fly.

In "An Angler's Season," the late Mr. W. Earl Hodgson remarks: "The Loch Ordie trout, for example, turns on its back before seizing a fly, just as a shark turns when about to take its prey; this is an action I have never witnessed in any other water." Nor have I in any. It is interesting to note why a fish should turn on its side—not on its back—when taking a fly. It does so when

the curve of the rise is so sharp that, if it did not turn on its side, the fish would be physically incapable of effecting it. The point may be illustrated by the case of a salmon tied "head and tail"—he bends sideways. So a live fish with ease can only bend sharply sideways, and fish in rising really only turn on their sides when coming abruptly at the fly and turning quickly away, with it or without it, in a curve too sharp proportionately for their length and depth.

When an angler speaks of the "rise" of a fish what is often in his mind is only the disturbance of the water caused by the rise. He uses the term loosely both for the rise and for its manifestation. The habit is apt to create loose thinking—and, indeed, writing—for angling authors sometimes quite inadvertently suggest, at least to the uninitiated, that the surface is always disturbed by the rising fish. This is far from being the case, for, on innumerable occasions, with trout, sea-trout, and salmon, I have seen the fish come towards a fly and either take it or decline it without any concurrent visible disturbance of the water. As I suggested, when referring to "travelling" fish, the breaking of the surface may, oftener than not, be a mere accident of

surface swimming; so, when the salmon moves to a fly, the break in the surface is also a mere accident due either to the salmon's body or part of it coming above water—to a "high rise," in fact—or to the swirl or boil caused by the turning movement below water. When a fish comes with deliberation on a flat trajectory, even close beneath the surface, very little if any indication is given on the surface of its presence, and so long as he holds a straight course there will be no resulting swirl, though, if the fish has the fly in its mouth, the angler will realise by the movement of the line that a fish is "on."

If what I have suggested as to swimming rather than jumping at the fly being the preference of the salmon is correct it necessarily follows that one will have more chance of hooking him if the fly be on the water rather than out of it, and, again more, if the fly be under the surface rather than on it. I do not pretend in this to teach anglers who have far greater practical knowledge of fishing than myself, but am rather endeavouring to test tentative principles in the light of known practice.

It would seem to be wise, therefore, in fly-fishing for salmon in a river, when the cast has

been delivered, to let the fly travel naturally round with the current consistently with keeping control of the line; in other words, let the fly travel on a taut line but without drag, so far as may be, and its tendency will be to remain steadily sunk. Unlike trout fishing—for trout when feeding sometimes hang poised just below the surface—one's flies can hardly sink below the fish in salmon fishing, and for several reasons it is probable a salmon takes a fly with greater certainty the deeper within reason it is sunk.

In loch fishing the same end may be attained by drawing the fly slowly towards one after the cast has been delivered, so slowly (it may be) that it barely travels. I am not to be understood to say that salmon do not ever or will not often "rise high" both in river and loch; the fact is that more are perhaps risen—or are seen to rise—by surface fishing than by fishing deep (and then there is "pother" indeed), but in my experience fewer of that majority come to the gaff. Beyond this, the slow draw may encourage lazy fish to swim up to the fly from a greater depth, and also give time to a hesitating fish to make up his mind to seize it. And, while we are on the subject, the slow draw will enable the angler to tighten on the

fish more effectively, because in most cases the fish will have laid hold before the fly comes too close in to the angler.

I have just now used the phrase "tighten on the fish" out of deference to those who are apt to quibble over the term "strike." A word on this matter may be in season. If a salmon seizes the fly in a river the first turning movement occurs as he seizes it, and the flow of the current helps to bear him down stream. In such a case there is little need for a strike of any kind, assuming the angler's line to be taut and well in hand. The strain and weight of the fish coupled with the "carry" of the stream will drive the hook in over the barb. But it is different in a loch. The fish in going down after an abrupt rise may put on sufficient strain, but he does not always do so, and with sound tackle there is no risk in striking. I would therefore counsel striking in such cases, though an experienced angler will exercise discretion. But if an unseen fish swims up to the fly in a flat trajectory, as already described, he puts on no strain at all. I strongly recommend the angler to strike in such a case therefore as soon as he sees his line move in a direction unnatural to the draw. Clearly the fish must have the fly

in his mouth, and equally clearly the barb must be driven home if the fish is to be firmly hooked. Some of my friends actually strike the fish a second time just to "mak siccar." When a fish, however, coming at the fly in this deliberate way is in full view the angler's nerve is thoroughly tested, for the difficulty is to exercise sufficient restraint to continue the slow draw until the fish actually snaps. Not till the fish snaps must the strike be made.

Apart from actually seeing the fish, one can often determine the species that has risen by the appearance of the surface boil. A salmon rising fairly high, but not actually to the surface, causes when he turns a series of swirls, which broaden out slowly in proportion to his length and spread of tail. If he comes "deep" the swirls rise quite an appreciable time after he has been seen or felt. A grilse makes much the same commotion, but to a less extent. His rise, however, is usually much more excitable than that of a salmon. A sea-trout makes quite a distinctive boil within a small circle of water, due presumably to his usually lesser bulk, but much more so to his quicker turning habit, for even big sea-trout turn at the fly sharply. Trout, when feeding, generally hover

near the surface, and when taking they make a quick splutter rather than leave a swirl.

There is one point I should like to have explained. A grilse when breaking the surface in his rise makes a curious characteristic noise which may be expressed by a sound between "clip" and "chup." A salmon, I think, does not make the same sound, but I have heard small sea-trout make it. Some say it is the forked tail which causes the sound. It can hardly be the fish smacking his lips!

(2) THE SEA-TROUT RISE.

Although in the eye of the law a sea-trout is a "salmon," yet there is no true parallel between the one and the other beyond this, that both migrate from the salt water to the fresh in order that the reproductive faculty may be exercised in some fresh-water stream. In other respects sea-trout in their habits approximate more closely to trout than to salmon. One's angling experience suggests this, for a good fishing day for trout is a good fishing day for sea-trout also, but a good salmon rising day need not necessarily be a good rising day for *fario* and *trutta*. Why and how, then, do sea-trout rise?

Very little definite attention has been paid to the sea-trout by modern investigators. I believe less is popularly known of its habits than of those of the salmon. It may be fairly classed, however, as an estuary trout, for it attains its best condition where an expanse of brackish water is greatest. In a netting expedition to trace the run of salmon smolts down the Tay Mr. Calderwood caught none beyond a point a short distance below the mouth of the Earn although operations were carried on as far as Buddon Ness and the open sea. The salmon smolts had gone further afield. Yet in all this great area sea-trout smolts were everywhere in evidence, as well as brown trout, and, of course, herring, and other marine fishes. In the lower reaches of the Leven at Dumbarton I have seen specimens of sea-trout smolts caught at all stages of growth from seven inches in length up to eleven and a half inches; from those which had the bold fresh-water markings to those whose blacker spots alone shone through the silvery sea scales. These fish were in fact visibly becoming whitlings without going to sea at all, and would, I believe, enter Loch Lomond as such that same season. This is doubtless a leisurely enough approach to our subject, but it is of advantage to

have first of all a clear idea of the fish itself, and I would venture upon another tentative suggestion.

I doubt greatly, then, if salmon hunt in shoals, so to put it, the shoals of herring they hunt. No doubt they are said to congregate "in shoals" in approaching a river, and what one calls a "shoal" of them may be seen sometimes in a pool; but it may really be that these fish are only a fortuitous concourse of individuals. Were it otherwise, what becomes of the theory that only a trifling proportion of each season's run of descending smolts returns during any one subsequent season? The salmon "run" at any one time must consist of mere scattered fragments of many shoals.

In contrast, I think sea-trout shoals have more coherence and that each original shoal which descends to the estuary continues, as a shoal, to move about and feed there. Whether the whole shoal—subject of course to inevitable loss—or only a proportion of the individuals comprising it ascends the river again I think nobody has yet proved, though I believe, as in the case of salmon, a proportion only ascends each year. One fancies that this habit of the sea-trout of hunting in shoals may very well bear upon its habits of feeding and rising in fresh water.

One may now compare with the foregoing what Yarrell, quoting Sir William Jardine, wrote of the sea-trout: "In approaching the entrance of rivers, or in seeking out, as it were, some one they preferred, shoals of this fish may be seen coasting the bays and headlands, leaping and sporting in great numbers, from about one pound to three or four pounds in weight; and in some of the smaller bays the shoal could be traced several times circling it, and apparently feeding." This (written in 1859) is precisely what can be seen nowadays at Crinan, off the mouth of the Add, and in many other places any evening in summer, when the angler, fishing with small trout flies, endeavours to keep his boat in touch with the shoal. For that the sea-trout is a voracious feeder, and—which is more to our purpose—a free riser in salt water there is no doubt.

It is interesting to note as to sea-trout scales, amongst the relatively little that Mr. P. D. Malloch tells us of the fish, that "in the whirling stage new rings are added during their stay in both salt and fresh water." The inference from this is that the fish is not only feeding all the time but is gaining bulk as well. The mature sea-trout hardly does this, though in his ascent from

the sea he carries his voracity with him, and eats whatever comes to hand, though I think he cannot feed as continuously in fresh water as he does in salt, because when he first ascends he is as a rule in a state that requires little more nourishment to sustain him over a long period.

At any rate my belief is that the sea-trout ascends into our rivers and fresh-water lochs in shoals properly so-called, and that the shoal feeds whenever the conditions are such as to encourage the inclination of the fish to prospect for food. In many rivers I have fished it was noticeable that the sea-trout, when feeding, occupied much the same sort of feeding ground that trout would occupy, spreading themselves over the shallower pools much as trout spread themselves, and often at evening working up amongst the gravel and boulders of broken water. In spates also one finds them, when worm fishing, in much the same water as one finds trout, and there can be little doubt that, as they further spawn about the same time, local *fario* have a poor chance of existence in competition with the migratory *trutta*. So in a loch one finds the feeding banks occupied by the sea-trout shoals spread out thickly or sparsely according as the "run" has been a prolific one or not.

When the shoal is numerous on the ground one chances to be fishing then I fancy that competition will induce the fish to come at the fly with greater keenness. It is not uncommon at least to see two fish rise to the same fly at once, and often one is hooked on each fly of the cast. The same sort of competitive eagerness to secure food characterises another shoal fish—the perch. I once caught three at once on the minnow flight I was fishing with.

It is the competition consequent on shoal feeding, therefore, that I think predisposes the sea-trout to much of his quickness and keenness when he is taking well.

I think the sea-trout has the most distinctive rise of any of our sporting fishes, and the reason may be, as already suggested, because he is essentially a shoal feeder. There is hardly anything more exciting in angling than to find in a well-stocked sea-trout stream the fish “on the move,” or in a loch to have every other cast cover a rising fish.

But although the sea-trout is one of the boldest of risers, he is, in fresh water, one of the most timid of fish. In a river he never, when feeding, hovers in the current near the surface as a trout

does, or perhaps it is more accurate to say that I have never seen him do it. Observation leads me to believe that in the ordinary case he hugs the bottom of pools as closely as he can, and in shallower water no fish is more expert at taking cover under stones or under the banks. As a careful student of nature once expressed it to me, he is "just like a rat" and he has all the furtive habits of a rat. In a loch, too, it is much the same; the sea-trout seldom ventures into shallow water, and he prefers to lie on a dark bottom which will afford him concealment. On some few occasions in a calm I have on a loch seen sea-trout dimpling the surface, but on most occasions when I have been able to follow distinctly the movements of the fish approaching the fly the sea-trout has risen from a considerable depth. He comes up, as a rule, with lightning speed, but he has the remarkable faculty of being able to stop his career and hang poised just below the fly apparently meditating whether to snap it or not.

Coming up as he does from the deeps, the rise of the sea-trout, like that of the salmon, is a swimming rise. But though the salmon may, and often does, come at the fly almost vertically, he more often comes at it in a slanting direction. In

this he differs from the sea-trout whose habit is, I think, to come up perpendicularly from the bottom. He swims up with great speed, and sometimes his impetus carries him high out of the water when he carries the fly along with him, and then, if he is struck, he will be struck in mid-air, with some risk to the tackle. I have even seen him come thus and take a fly dangling over the water. What the conditions are that encourage sea-trout to come high like this I have never been able to determine; the light may be one factor, but eagerness may be another. Bold riser as he is, however, there is no fish—I mean of the salmon species—that is so easily put off his confident rise by being fished over as the sea-trout is.

I have read somewhere that a salmon or sea-trout which rises with his mouth wide open is always a taking fish. He may be so, but that he always takes is not my experience. So far as my observation goes, this coming at the fly with jaws agape is only common with fish which come slowly at the lure, not with the quick risers; and the deliberate riser is often, by one cause or another, disturbed before he actually snaps the fly. Indeed, I have seen sea-trout rising thus sink back again slowly with their mouths still wide open.

I indicated, when discussing the salmon rise, that he threw comparatively a much wider swirl than the sea-trout on breaking the surface, and this is because he does not turn at the fly within so narrow a space. The curve of the sea-trout rise is extremely sharp from his habit of coming up vertically, and, though he is a smaller fish as a rule than the salmon, he almost invariably turns on his side when taking, so sharp is his turning movement. On most days, I fancy, many more fish are risen than are actually seen even by those who have specially acute eyesight—and this aptitude for seeing fish in the water is a gift that some anglers possess in a high degree—but on those days when the angler's position relative to the light enables him to pierce the water most easily, he will see the glint of many turning fish under water.

I am inclined to suspect that such days, when the fish can be clearly seen by the angler, are not good fishing days, because the angler may just as clearly be seen by the fish. This may account to a great extent for what anglers call "short rising," though that term is generally applied to fish which come to the surface and do not hook, or which touch the fly under water without hooking. If conditions

of light are very bad the rising fish may turn away long before he reaches the fly, but if they are not so bad, but still not good, the fish may lose confidence just on the point of seizing the fly. I think the sea-trout, or indeed any fish, moves at a fly primarily with the intention of taking it, and although his subsequent conduct very often suggests the notion to the aggravated angler, I do not think it is probable that the fish ever comes at the fly "just for fun." His mouth, as can be seen, is sometimes closed when he turns at it, and on the whole we may suspect that he has good reason for keeping it closed.

It follows that if the sea-trout has to traverse in his vertical rise a considerable space of water there is no good object in drawing one's flies too speedily when making a cast, and I think the slow draw is generally best in sea-trout fishing on a loch, as it is in salmon fishing. I have heard anglers complain often in loch fishing that the sea-trout rose always "too near the boat." In such cases I have invariably found that the angler was drawing his flies too quickly or was fishing with too short a rod, a rod, that is, which did not permit of a long draw with concurrent control of the line. No doubt the fish can, and do, rise with

great speed, but the angler should endeavour so to adjust the speed of the draw that the fish will take while yet so far out as to enable him to be firmly struck.

There is no occasion, either in river fishing or in loch fishing, to "work" one's flies in an endeavour to impart to them a life-like movement. Such action of the fly may as well alarm as attract the fish, and its unsteadiness—as one learns on a gusty day—will as likely as not cause a fish to miss it that would otherwise have been hooked. Motion enough is given to the dropper if it is on the surface, and tail flies under water are best fished steadily.

I am one of those who believe, perhaps erroneously, that sea-trout, of all fish, should be quickly and firmly struck. Apart from my personal experience, I find that those anglers who do strike, and strike "quick and hard," produce the best baskets. Were there no other reason, then, their success would induce me to follow their example. But I think that there are good reasons for the practice. No fish is so widely erratic in his movements as a hooked sea-trout. As Mr. Francis Francis says in a passage which always appeals strongly to me: "Like a

champion of the light-weights, when hooked he is here, there, and everywhere; now up, now down, now in the water and now out." Clearly such a fish has to be firmly hooked if it is to be landed, and the only way to hook him firmly is to drive the hook in over the barb. It is to be considered that the mere weight of the fish, or even his downward pull, will not drive the hook home, and the angler must therefore exercise some force in fixing it. But the element of speed comes in also, for the quick rise involves a quick strike, and I defy many people, fishing with a sea-trout rod of the best type, to strike quickly without at the same time exercising considerable force. On occasion the rise may be slow, as I have stated, and then the angler must exercise restraint; but when the fish takes he must be struck sharply in order to hook him firmly.

In sea-trout fishing, then, from a consideration of the fish's rise, I would advocate as a general rule that the angler should "draw slow and strike quick."

(3) THE RISING TROUT.

If something can be said for an inquiry into the why and the how of the salmon and sea-trout rise, not much, one would think, can be offered by

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way of excuse for opening a discussion, so late in the day as this, upon the rise of the trout. But modern practical science steps in and, as will be seen, affords an excuse.

To give even the briefest summary of the trout's feeding habits would lead me too far afield (much as I love to wander), nor is it necessary to give it. But it may be said that in feeding, both as regards the nature of their food and where they seek it, few fresh-water fish cover as wide a range as trout do. They are, at one time or another, bottom feeders, mid-water feeders, surface feeders, and even—a point not so frequently noticed—"out of water" feeders.

With the bottom feeders one has not much to do in fly-fishing, though "tailing," the breaking or disturbance of the surface caused by trout grubbing amongst weeds, has been classed amongst the trout rises; while as regards the mid-water feeders "bulging," or the disturbance caused by the trout when in pursuit of the elusive nymph, is classed also as a rise. Both these rises are in a sense inadvertent. It is rather with the fish which takes a fly floating on the surface, or jumps out of water at flies hovering over it, that we have to do. I do not mean of course—as the

tyro may think—that some trout adopt one system of feeding and some another. All the trout in any particular water, to a greater or less extent, act similarly, according to the nature and situation of the food which the time and season offers to them.

I have just now said “to a greater or less extent,” for one can hardly doubt that the younger fish in any water rise more freely than do the older fish. This seems to be an axiom which holds good not only of trout, where the freedom of the rise decreases steadily from the audacious dashes of guileless fingerlings to the cautious approaches of toothless veterans, but of salmon and sea-trout as well. The pertinacity in rising of parr and smolts is patent to every angler, and salmon anglers know that grilse will come time and again at a fly, while, as regards sea-trout, the freest risers are the younger fish. I believe the same holds good of the American bass, and indeed with any fish which, as we say, “rise,” the willingness to rise tends to decrease with age. What the cultivator of good trout-fishing water aims at, therefore, is to encourage a stock of fish which will, with a fair average weight, possess a disposition to come freely at the fly. This is one of the

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numerous fishing problems which may well repay careful study, and I do not think it is very generally understood by anglers. Although the point involves the question why trout do not rise rather than why they do I may be allowed to say something regarding it.

Although in our rivers trout may be captured occasionally of 10 lb. in weight and are got with comparative frequency of from 3 lb. to 6 lb. in weight, while in our lochs they sometimes attain the astonishing weight of over 20 lb., the fly-fisher has to admit that such monsters—although one at Loch Awe, caught with fly, weighed 29 lb.—practically never fall to his lure, and the lesser big fish but seldom. Why is this? The reason commonly adduced is that when a particular fish increases in bulk beyond his fellows he abandons fly-feeding altogether and becomes wholly cannibalistic in his tendencies, preying upon his younger neighbours. But I am not sure that this is the whole truth.

In waters that are seldom fished the average size of fish caught with the fly is commonly greater than in waters which are much fished, till the minimum size limit—as one may put it—is reached in our so-called “public” waters. It is not there-

fore extravagant to assume—in spite of one's disbelief in the “educated trout” theory—that an acquired timidity, as much as a confirmed preference for a fish diet, has to do with the non-rising qualities of the larger trout. If this fear be not the fear of man, it is at least plausible that the fear of natural enemies, in comparatively shallow water in daylight, will also deter big fish from rising, and I imagine there is some truth in this suggestion, because big fish may commonly be caught with the fly in shallow water at night. Nor is there any reason to assume that the larger trout lose their taste for an ephemeral (or even a dipteran) diet, for it is proverbial that many big fellows succumb during the time of the May-fly orgy. Reversing the proposition, therefore, we may put it now, not that the larger trout do not rise freely, but that they will rise the more freely the less they are disturbed. The moral seems to be that for angling, and especially for fly-fishing, more particularly in rivers, over-fishing is a detrimental practice and a very real evil.

To take another line of speculation—for I candidly concede that much of what I write is sheer speculation—it is probable that young fish rise more freely to the fly than larger fish because

they are greedier, or, as that word has a moral implication, it would be better to say hungrier. Trout are, as was said, omniverous in their diet, and young trout especially seem to be more or less ravenous throughout the season. The earliest years are the period of greatest comparative increase in bulk, and to promote and sustain the increase until the trout reaches the maximum attainable in its environment voracious feeding is a practical necessity. Young trout are impelled to let no possible food escape them, and accordingly they rise to the artificial fly with eagerness and audacity. When mature growth is reached sustenance alone, and not increase of bulk as well, is involved, and feeding becomes more intermittent. To put it another way, the fish can afford to select its feeding times and its food with more particular reference to its personal safety.

It will be seen that this discussion of "the why" of the trout's rise has led us into very different trains of thought from those suggested when the rise of salmon and sea-trout was under consideration. The reader will easily apply for himself the points raised in discussing one fish—where they do overlap—to the proclivities and habits of the others. I have assumed that trout rise simply

because they want something to eat, and have not gone out of the way to inquire whether any other motive can impel them to rise at any time, such a motive, for instance, as was once suggested by a writer in "The Field," namely, that the fish come to the surface "for more air." How, then, do trout rise?

In his book on "Marvels of Fish Life as Revealed by the Camera," Dr. Francis Ward makes an interesting attempt to show us by means of photography the rise of a trout "as seen from below the surface of the water." That is, the fish has been photographed, in the act of rising, from an ingeniously constructed underground and underwater observation chamber. One of the photographs, of which there are two, shows the trout "having completed the rise, and the fish is seen end on in the act of coming round." The other illustration "shows him going across. He then swung round once again, and was in position for the next fly." While I cannot think that Dr. Ward's photographs very happily suggest a rising trout one must admit that they suggest a tremendous advance in practical experimental work. It is clear, too, that such photography being found to be feasible, better and more illuminative plates may yet be obtained.

But the descriptive matter in Dr. Ward's text is admirable, and is so informative that I may be pardoned for rather copious quotation from it, more especially as it has a direct bearing upon the very tentative observations I shall myself offer.

"The observation of various trouts as seen from below the surface of the water," says Dr. Ward, "also enables one to appreciate their agility, and the perfect control that they have over their movements. When a trout lying near the bottom rises to a fly on the surface he comes like a flash of lightning, and so rapid are his movements that even with an exposure of $1/250$ of a second it is impossible to get more than a blurred image. But should a trout take up a position a foot or so under the surface of the water, it is possible to watch closely his movements as he rises to a fly, and also obtain fair photographs with a quick exposure." This is distinctly valuable matter, as it indicates authoritatively, as regards one type of rise at least, the speed of movement of the trout in the act of rising. It goes further, for it helps to confirm the view which many hold, that more fish are "missed" by an angler having been too slow in striking than by

his having been too quick, for, to frustrate the intention of a trout travelling at such a rate of speed to expel the fly from its mouth by any consecutive and progressive movements of arm, rod and line, however quickly made, would be practically impossible.

To continue Dr. Ward's description: "When the fly is almost above him the trout suddenly comes up at an angle of about forty-five degrees, and sucks it down, and then as he again descends he breaks the surface of the water with his tail. The trout is now about two feet in front of his original position, but he does not remain here, for continuing his progress he swings round, almost invariably the same way each time, and comes to rest within an inch or two of the place from which he started. The whole manœuvre is an uninterrupted glide." This "swinging round" is not the turning movement I have formerly described except in so far as it may be a continuation of it. Assuming the fish to be rising in a running stream and naturally lying facing the current when he rises, the first turning movement will be executed as he seizes, or rejects, the fly; the second—that referred to by Dr. Ward—will occur when he swings round to face the current again. In a loch

these turning movements need not necessarily occur at all, for I have seen both trout and salmon—but seldom sea-trout—literally “walk away” with the fly without turning at all unless checked by the angler.

Turning now to Dr. Ward's description, of which the gist is that “the whole manœuvre (*i.e.*, of the trout in rising) is an uninterrupted glide,” I am prepared to accept this as being accurately descriptive of the rise from a position some two or three feet beneath the surface, but I doubt if it is equally applicable to a rise which originates within an inch or two of the surface. In this case I suggest the trout's action is more of the nature of a spasmodic jump, and if the natural fly at which he rises is hovering over the surface the spasmodic jump will be all the more pronounced. One often sees trout jumping of an evening in this way at the clouds of flies dipping and dancing overhead. Their habit of so rising suggested a quaint conceit some time ago to one of our poets, who wrote on “Trout leaping in a stream where a juggler was drowned” :—

His flesh and bones have long since gone,
But still the stream runs gaily on,
And still his merry ghost contrives
To juggle with his silver knives.

I have only once seen a salmon rise in this way. In a loch, close inshore, the fish leapt almost clear of the water, time and again with ponderous regularity. On pulling our boat in to see what he was rising at, we discovered in a sheltered corner of rock a thick cloud of what I took to be silver-horns. Although trout take flies thus in the air as they can best get them, this fish apparently snapped at these flies as he came up because he fell back—or rather subsided—tail first. I have seen salmon rise also, but not so “high” or with such persistency, at the natural May-fly.

These notes will suggest to the reader that trout have a more diversified rise than salmon or sea-trout. Perhaps, if it is really so, it is because, when feeding, trout range at varying depths, and may rise from the bottom, from mid-water, or from the surface, as they chance to be. But if I were to attempt to characterise the trout’s rise, in differentiating generally between it and the rise of a salmon or of a sea-trout, I would call it a splashing rise, though with the smaller fish it would be more accurate still to call it a spluttering rise. When rising to the fly, trout oftener than not are hovering near the surface, and the quick displacement of the thin water causes, I think, the

splash or splutter. Curiously enough, that admirable writer and observant angler, Mr. A. H. Chaytor, in his "Letters to a Salmon Fisher's Sons," chances upon the distinction—I fancy without any particular premeditation—when, in describing the capture of a salmon, he writes: "As the fly—which fell in the slack water—was being towed by the current into the rush, there was a splashing rise *like that of a great trout*." I have emphasised this interesting simile by the use of italics.

Mr. G. E. M. Skues, in his pleasantly suggestive book, "Minor Tactics of the Chalk Stream and Kindred Studies," describes various types of trout rises. I like to find myself in agreement with masters of craft (when they agree with me), and I am impressed with the general soundness of Mr. Skues's reasonings and descriptions which I need not repeat. I deal here only with the broader aspects of the trout's rise, and therefore I limit myself to the general observation that the trout has a "swimming" rise as well as a "jumping" rise. It is of the same nature—though on a lesser scale—as the swimming rise of the salmon and sea-trout already considered, and I think the same general principles apply, both as regards the turning movements and as regards the fish turning

on its side, as I indicated in connection with the rise of the migratory species.

But I may emphasise the trout's distinctive swimming rise which I have not observed salmon or sea-trout* to indulge in—I mean the “cruising” rise. One can observe this habit of trout in any river pool, but I have seen it in its greatest perfection on a calm day at Loch Leven, where probably the vast extent of feeding ground of a uniformly shallow depth encourages the habit. One can follow the surface movements of these cruising fish for considerable distances, and I have a friend who is particularly expert at capturing them with the lightest of tackle as he drops his minute double hooks well in front of the line of a trout's advance. There is a leisurely deliberation on these occasions on the part of the fish which is in striking contrast to the excitement of the average angler.

Notwithstanding all I have here written I feel I have done but little more than cover already well-known ground. But some problems are

* An exception, as regards sea-trout, may be noted. In the voes of Shetland and other inshore brackish waters, where these fish are angled for with fly, they will dash at it from many feet away as they “cruise” along.

touched upon if they have not indeed been solved; and, at any rate, the beginner will have before him certain facts known to the expert, which it is really of practical importance to his sport that he should keep in view.

An Entomological Inquiry



CHAPTER VIII.

AN ENTOMOLOGICAL INQUIRY.

SIR Herbert Maxwell, in his book on "Salmon and Sea-Trout," quotes with approval a passage written by Mr. Abel Chapman in "Wild Norway"—a delightful book, I believe, which I have not read—to the following effect: "Salmon never take a fly as such—that is, as an insect—nor as *food* at all Why salmon take a fly, or what they mistake it for, are perennial problems Certainly there is no form of life in fresh water that in any degree resembles a 'salmon fly,' and the assumption therefore is not unreasonable that the fish take the fly or other lure for some object on which they have been accustomed to prey whilst in salt water. The tinsel and gaudy feathers, it may be, recall pleasant memories of the week or month before, and *Salmo salar*, with re-awakened rapacity, but without pausing to consider the anomaly of thus finding a prawn inland, or a starfish stemming a rapid, dashes at the intruder, and gets the hook." The quotation is lengthy but full of controversial matter.

Mr. Calderwood, too, doubts if the Jock Scott or Silver Doctor are like anything in the heavens above or the earth beneath, and I suppose a dozen other authors could easily be quoted to the same effect. John Younger, for example, whose acquaintance the reader may have made through his "River Angling for Salmon and Trout," first published in 1860, declared: "It is long since we were satisfied that the living type of what we call our salmon flies is not found in fresh waters or produced there, either on the land or in the river." One might conclude, indeed, that this matter had gone beyond all controversy. But has it?

A discussion on salmon flies bearing on Mr. Chapman's extremely dogmatic statement quoted above seems to flow naturally from the question whether salmon do or do not feed in fresh water, and the question of what kind of food the fish might appropriately find there seems to be very much in point.

Suppose, then, we start with the assumption that a salmon fly does not represent a shrimp—as Younger thought—or a prawn, or a stickleback, or a bit of seaweed, or—to be as extravagant as some writers—a piece of salmonic roast beef or plum pudding. On the contrary, let us suppose

it to represent a fly, and nothing but a fly, and see where the argument will lead us.

To begin with, the typical pattern of an artificial salmon fly—consisting as it does of wings, body and legs—suggests that what the original artist had in his mind to represent was a natural fly, and not a shrimp or a stickleback. And yet Younger, no doubt in one of those brown studies he tells us of, ruminates thus: “Who of those who in primitive ages ‘cast angle in the brooks’ would first conceive the notion of what we call the salmon fly (like no living fly that has been seen), or what might suggest such idea to their imagination, must remain, as it has hitherto been, undeclared and unremarked, even in tradition. It would be a curious experiment for some one—how amused he would feel at his first success. Whether an ancient philosopher or a neat herd boy is of little consequence.”

This speculation appears to me to be far beside the mark. It seems more rational to suppose that the earliest fly-fishers fished with trout flies and found their tackle being constantly broken when by chance a salmon was hooked. It then occurred to one angler rather more enterprising than the others to increase the strength of his tackle, to use

a heavier iron, and necessarily a bigger fly, in order that he might successfully land one of these voracious monsters. It required only a step to discover that the bigger fly was necessary—when salmon were specially angled for—to attract these fish which lay deep and did not soar near the surface like trout.

The important supposition for us is that the salmon fly never was inherently different from, but was merely a development of, the trout fly, its limit of size being plainly fixed only by the salmon's inclination or disinclination to seize it.

This theory of the salmon fly's evolution might quite well have occurred to Younger himself, because his idea of the fly's dressing was that "the wings should lie at seeming ease, less than half extended from the sides of its body, which body is the better of looking somewhat caterpillar-like." In other words, it should resemble in shape one of the larger water flies with which trout and salmon are quite familiar. A very good friend of my own, indeed, a salmon fly-dresser as well as a salmon angler, sometimes sets the wings of his flies cottage-roof fashion, and even horizontally, in order partly to display the wings to better advantage and partly to imitate certain types of

natural fly more accurately. It would be childish to suppose that a shrimp or a small fish was the—purely accidental—model in either case.

But an experience I had at Loch Lomond a few seasons ago first turned my thoughts into their present channel. I captured on the loch one day a large fly, a beautiful creature with mottled grey wings, emerald green body, and lemon-yellow coloured legs. I did not know the fly, but suspected it to be one of the caddis family, of which Mr. Halford counts 174 British species. Carefully copying the natural fly as an artificial fly in water-colours, I sent the sketch as a model for my tackle-maker, with the request that he would dress the fly in two sizes, Nos. 7 and 9 Limerick scale, that is—as we use them on Loch Lomond—for salmon and sea-trout respectively. I also asked him if he knew the fly. He replied at once that the fly was well known as the “Green Highlander,” and was a stock pattern of trout fly as well as a salmon fly. The first point I verified almost immediately when my friend, Dr. Simson C. Fowler, of Edinburgh, produced a trout cast with which he had recently been fishing Loch Ness with the “Green Highlander” on it as one of the droppers, and the second point was verified

by a reference to Plate 11 in Messrs. Hardy's admirable catalogue. But to return to my two patterns. On the first day, while I was using the smaller pattern as a dropper, a sea-trout took it with such avidity that I could scarcely get the hook extracted from its gullet. On the second day, while I was using the larger fly also as a dropper on salmon ground, a fish attacked it so fiercely that one would hardly have expected the tackle to stand the strain. The salmon weighed 16 lb. and was hooked at the root of the tongue.

Now, I do not know the merits of the "Green Highlander" when dressed as a large salmon fly for river fishing, but when we find that a known natural fly is dressed artificially for trout, sea-trout and salmon alike, and is taken with avidity apparently by all three kinds of fish, then it seems to me to reflect over strongly upon the reader's—and the salmon's—intelligence to assume that the fish take the artificial lure to be a young fish, a shrimp or a piece of sea-weed. It seems also puerile to suggest, when big kelts in spring plunge at floating March browns, or when clean-run salmon rise to natural May-flies, that they are on the hunt for sticklebacks.

Objections to my theory based upon the size and colour of salmon flies are easily answered.

In trout fishing on a coarse day we use flies of a size, or, it may be, two or three sizes larger than ordinary with perfect confidence that the trout will be deceived by them. Nobody imagines that the natural insects are larger in "dirty" weather. Similarly a large salmon fly, which breaks with a splash the unruffled surface of a mill-dam, seems but a trifling object amongst the eddies and swirls of a Highland river in a half spate. So small then does it appear to us to be that our human reason discards it at once and we tie on another even a size larger. As for our salmon, he sees the lure from the depths where he lies through the turmoil of water overhead, he does not stop to argue about size but rises and is hooked. In fact there is a wide range of size in all salmon patterns, each adapted for an occasion when the fly is large enough to attract and not too large to alarm the fish.

Mr. Leonard West is another of those authors who does not know what a salmon fly represents, but this natural fly imitation theory might have occurred to him from his own description of the brilliantly prismatic effect of colouration in the common house fly, as seen from below, when it alights on the surface of the water. So that in

the brilliant plumage of the average standard pattern of the modern salmon fly, the vivid coruscations of glittering lights may fairly represent, and enhance, the natural prismatic tints that break the mass of any floating object.

It may amuse and interest the reader to search amongst his patterns of salmon flies for the old original trout fly encrusted over as it now is by all the scintillating fripperies of Irish dressing. He will be struck with the number of black-bodied flies in the list, and will note how many are based upon the crude common colours of our old trout flies.

On the whole our inquiry has led, I think, to some warrant being given to the novel contention that a salmon fly represents a fly.

A Gastronomic Puzzle

CHAPTER IX.

A GASTRONOMIC PUZZLE.

I HAVE always hitherto been rather chary of discussing the question whether salmon do, or do not, feed in fresh water. It seems to me that most people have already made up their minds on the subject and are tired of it. Yet a few loose comments of no particular weight of authority may be tolerated, and I make them with the less hesitation because a correspondent has recently challenged my opinion in regard to the matter.

An older generation did not appear to doubt that salmon fed, and fed freely, in fresh water. The fish at least were found willing and ready to accept both fly and worm as a pleasing gift-offering, and such evidence of "feeding" was considered to be quite good enough. It has been left to modern and more exact inquiry to throw doubts upon the "feeding" belief.

My correspondent—like many other people—finds it difficult to get over the fact that salmon take edible food. "I have often seen it asserted,"

he wrote, "that salmon never feed while in fresh water. Regarding this point it may interest you to know that my nephew while home on leave from active service caught a fresh-run salmon, 12 lb. in weight, with the worm, in the river Stinchar. On being landed it was found that the hook had been swallowed by the fish. I think the point is interesting in view of the above belief."

When thanking my correspondent for his letter I was able to tell him that only recently a friend of my own had caught with fly a 9 lb. salmon from whose jaws protruded about a foot of gut. On tracing the gut to its inner end it was found that a worm hook to which it was attached was firmly embedded in the fish's stomach.

Of course worm bait is very commonly used to catch salmon. In many of our smaller western streams it is the only practicable lure. As an instance, Mr. Thomas Speedy, the well-known Scottish sportsman-naturalist, records, in "The Field," a catch once made by him in the river Aray, when he landed fourteen salmon, averaging about 7 lb., with the worm. "It is difficult," he writes, "to reconcile fish thus, one after the other, gulping down worms, with the fact that they were

not feeding—but scientists say no.” I shall revert to these small salmon later, but meantime one may examine the “official” view.

The whole subject is exhaustively discussed by Mr. Calderwood in his book, “The Life of the Salmon,” from which I may select one or two passages. Our men of science, while following Continental inquirers in the view that salmon do not “feed” in fresh water, admit of course the “taking” of fly, minnow and worm. “The main point is, however,” as Mr. Calderwood states, “that food is not taken in any regular manner in fresh water, and that the fish is in no sense nourished. In support of this it may be added that the marking and recapture of clean-run fish during their stay in fresh water has invariably shown a loss of weight.”

A pertinent contribution to the subject is Mr. Calderwood’s reference to the feeding of the fish in its earlier stages of growth. “It is interesting to notice,” he points out, “that from the commencement of the salmon’s life the feeding habit waxes and wanes with the seasons. Every angler knows how persistently parr will keep rising to the fly, how greedy and troublesome they are in the spring and early summer. When fry are

reared in ponds and hand fed they show the same peculiarities which seem to mark the 'taking' proclivities of the adults During the first year in the life of the fry, food is taken freely through the summer, but when the first frosts of autumn set in feeding becomes intermittent. In December many days will pass without any food being taken, and in January and February the amount of food consumed is very slight." And again: "Even when a plentiful supply of food is obtainable, therefore, the young salmon in fresh water does not incline to feed freely in winter; and when the smolt stage is passed and the fish has reached the great feeding place—the sea—this peculiarity, which is shared with other fishes, is still obvious. In the formation and growth of the fish's scales these periods of feeding and non-feeding are recorded."

To the effect that salmon only feed intermittently, or not at all, during their stay in fresh water—which, be it observed, includes particularly the winter months—this is all fair argument. It may also be readily admitted that the salmon, before it enters fresh water, has already stored up within itself so much of energy-making fat that there is no further necessity for it to eat while

there. That, I would say, applies more particularly to the salmon which ascend our greater rivers, the Tay, Tweed, Dee and others of the like class. But there is an important exception to what may be considered this general rule, an exception which is clearly responsible for much of the confused opinion which puzzles the inquirer.

The exception I refer to is the case of the smaller rivers of our western coasts, rivers having a flow of barely more than seven or eight miles and yet into which salmon run and in which they breed freely. Dozens of such little rivers enter our Scottish fjords, but the habits of the salmon frequenting them—usually fish averaging something under 8 lb. in weight—differ materially from the habits of the larger salmon of our greater rivers. In these small streams there is no spring run, and there may hardly be said to be a summer run. It is an autumn run merely which the spawning instinct compels the fish to undertake. But there is this peculiarity in the run that the fish make two or three tentative ascents before actually settling down in the vicinity of the redds. Consequently in any spate in autumn these salmon are caught freely with worm bait—as Mr. Tom

Speedy caught them—because their visit to the river is not at all so prolonged as to interrupt their sea-feeding habits, and the worms and snails and other toothsome fare washed down by the flood in no sense come amiss to them. I am clearly of opinion that a fresh-water feeding habit is established with regard to that class of salmon. Yet this is only part of the main question to which I shall now return.

Mr. Calderwood's more or less definite conclusion is this: "The Jock Scott or Silver Doctor may certainly be like nothing in the heavens above or the earth beneath, but the minnow or gudgeon is after all a fish, even though it smacks of formalin. Such lures are found by experience to attract the salmon, and the impulse to take them is in all likelihood the same impulse which enables the salmon to nourish himself at other times. In this sense the fish may be said to feed, while at the same time there is nothing unnatural in allowing that the wobbling of an apparently half-dead dace or sprat over a salmon's head may incite the poor fish's rage, or that the exquisite colouring of what is called a fly may produce a flash of keen emotion, as has been said by some."

Such contribution as I shall myself make to

this subject will follow very obvious and simple lines, and the conclusion I arrive at does not necessarily differ materially from Mr. Calderwood's.

I think, then, that it is worth while to consider, and contrast, the different habits of trout, sea-trout and salmon as regards feeding.

The trout, being indigenous to fresh water, is accustomed to fairly regular meal hours, and when food is plentiful he eats voraciously. At the same time we may take it that the supply of food will regulate his appetite. He is quite content to fast when fasting is compulsory, and a trout can fast for a considerable length of time without much risk to life or health. Although they feed during the winter months it is not to be supposed that feeding can be then so regular, or the food supply so abundant, as during the summer months. In the cold weather they are easily able to adapt themselves to a kind of semi-hibernation. Yet when food is in any wise to be had they will have it.* No person, therefore, will be so foolish as to contend that trout, in any sense of the term, do not "feed" in fresh water.

* Subject, of course, to temperature. My friend, Mr. W. H. Armistead, informs me that if the temperature falls to within a degree or two of freezing point, trout cease to feed and are unable to digest any food taken. With a rise of temperature, inclination to feed returns and digestion is facilitated.

Now take the case of sea-trout. These are not fish indigenous to fresh water although their customary habitat is not far afield from it, being mainly in the estuarial or brackish waters of rivers. Their feeding habits, during their comparatively frequent visits to fresh water, are very similar to those of trout, while the food they eat is precisely the same. But there is this difference that the sea-trout in fresh water does not feed nearly so regularly as the trout, being apparently so well nourished by his marine fare that he can go for long intervals without actually requiring fresh sustenance. It is impossible to deny that he too "feeds," in the ordinary acceptance of the term, in fresh water, just as the trout does, but he feeds more intermittently.

If we then consider the case of the salmon, we find that he is capable of storing within himself a large reserve of sustenance before he leaves the sea, so large a reserve that feeding for him while in fresh water is no necessity. Yet he too, like the sea-trout, shows himself to be willing to feed at times, and he does so on precisely the same food—worms and flies—that the sea-trout feeds on, but his feeding is so very intermittent that one may count it negligible. It is feeding, however, and, without quibbling, one may quite well contend that salmon do "feed" in fresh water.

Personal Observation



CHAPTER X.

PERSONAL OBSERVATION.

THE subject of the spawning of salmon is of course of recurring interest to all those who are practically and personally engaged in the development of salmon fisheries. At the same time the subject is one of perennial interest to a much wider circle. Naturalists, and anglers who study their sport intelligently, have at all times been attracted by the problem of the reproduction of the species, a problem which is not the less attractive because the salmon, although living for the most part in the sea, ascends periodically into fresh water to spawn.

It is not a little surprising, however, in spite of all that has been seen and said and written on the subject, how much of doubt still lingers in generally well-informed minds regarding the actual details of the reproductive process. The reason can only be, I think, that many writers, content to accept their "facts" without personally verifying them, have perpetuated error, while

others, unfortunately, have in quite good faith described "facts" which they erroneously imagined they had seen. "Quite so," said Sherlock Holmes to Dr. Watson, "you see, but you do not observe. The distinction is clear." It may be of interest, therefore, if I submit here certain notes on the subject based upon personal observation.

Before doing so, however, I should like to refer the reader to the lively description given by Richard Franck in his "Northern Memoirs" of the salmon spawning operations in the river Isla which he informs us he witnessed himself. "Believe it that will," he writes, "refute it that can; I know no better evidence than eyesight." The passage is much too lengthy for convenient quotation, but perhaps I ought to state that Dr. Turrell, in his book on "Ancient Angling Authors," does not rate Franck very highly as an author—even as an angling author. In spite of a deal of fantastic and wholly irrelevant matter, however, which interferes with the reader's enjoyment, Franck's notes of his tour, and of fish and fishing, should not be neglected by studious Waltonians. In particular, as to the spawning process, it seems to me that Franck made an

honest effort to describe precisely what he saw, and, if he failed largely to appreciate the facts, his description is none the less quite a remarkable effort for the seventeenth century. It is not, indeed, much more than half a century ago since the patient investigations of Shaw of Drumlanrig began to throw a clearer light on the initial stages of the salmon's career. But even Shaw's facts and conclusions were not immediately accepted, as Thomas Tod Stoddart's very uncritical criticism of them makes clear.

A great many modern writers have within the past few years dealt with this subject, but it is quite certain that all of those who have treated of this phase of the life-history of the salmon have not written from personal observations made at first hand. Most have been content to repeat, with variations, what they have read elsewhere. Much the best account of the spawning procedure which I have anywhere read in any published work is to be found in Chapters XXII and XXIII of Mr. A. H. Chaytor's "Letters to a Salmon Fisher's Sons," a book which it would not be easy to commend too highly either for its matter or for its manner. "For about fifteen winters," Mr. Chaytor writes, "I have very seldom

missed going to see the salmon spawning, and I have watched closely some hundreds of salmon actually spawning, and the fish that I have seen do not appear to be doing what has been so often described." Intending to write on the subject he says again, "I determined to take the first really good opportunity of again seeing the fish spawning, and to write down on the spot what I saw without reference to any preconceived theory of what I expected to see or thought I ought to see." The results are set forth in his two admirable chapters, which I can hardly give here even in condensed form, but some of his conclusions may be given.

Mr. Chaytor took for granted, of course, as everybody now does, that there is no kind of coition, as Stoddart imagined, but that fertilisation of the egg is secured by its impregnation with the male milt through the agency of the river water. Watching a particular female, then, he writes: "She comes to the surface turning half on her side (and three out of four times on her right side), arching her back, and then she gives five or six vigorous, shuddering wriggles or kicks, curving her body and violently straightening it again, and during this series of wriggles she moves up

stream about eighteen inches or two feet. Then she sinks to the bottom and remains quiet for about three minutes. She throws every three or four minutes, but the male less often." And of a male spawning he writes: "Two or three times he came alongside and a little below her and gave a slight kicking, but there was no vigorous shuddering such as the female gave." Mr. Chaytor, on the whole, thinks:—

(1) That the gravel is intentionally disturbed by the female fish, but that a "nest" or hollow is not purposely formed, although that commonly occurs as a direct consequence of her "violent struggles" to extrude the ova.

(2) That the eggs are not covered to any appreciable depth in the gravel by the fish, and particularly that the eggs are not expressly shed in a hollow to be subsequently covered.

(3) That the male fish, although ranging alongside the female, usually a foot or two below her, takes no part in any digging operations.

(4) That the "hook" which develops on the male salmon's lower jaw is certainly not a tool for digging, but is presumably a weapon for fighting with; but

(5) That there was practically no fighting

among the males, and very little evidence of fear or jealousy.

These chapters of Mr. Chaytor's will well repay perusal.

I am fortunate in being able to submit a description of the spawning process which was kindly given to me for publication by a keen student of fish life. It will be seen that he suggests more of combativeness on the part of the fish, but otherwise his account tallies fairly closely with that of Mr. Chaytor.

"There were three pairs of fish," my friend writes, "hard at work below the bridge, notwithstanding the hot sun. Above the bridge there were a good many cock fish apparently watching the redds. We were much interested in a hen fish of about 15 lb., which had no less than six gentlemen in attendance. There was one large fish of over 20 lb. which was apparently master of the situation. Another fish, slightly smaller, had a deformed mouth, his 'gib,' instead of growing upwards, projected at right angles and was curved in like a button-hook. Occasionally the lady had two or three gentlemen lying quite close beside her, and every now and again one of them would swim up and drift down again over her and touch-

ing her and also the other fish. Sometimes the cock fish would rush at one another, and occasionally the big chap would exert himself and drive away the whole crowd, and whenever he did this a small fish, 5 lb. or 6lb. in weight, would slip into the hole at the top of the redd where the hen fish was lying. On one occasion the big chap turned round in a rage and rushed, with his mouth wide open, at the little beggar, and drove him down below the bridge just below our feet. He then turned back and swam slowly up again to the hen fish in a most dignified manner. Much to our amusement we saw that the little chap, in no way dismayed, was swimming close behind him. The big fish had to go round some gravel just behind the hen fish, as the water was too shallow to accommodate him, and, incredible as it may seem, our small friend, in the most cheeky manner, slipped over the gravel and caught hold of Goliath by the tail, and shook him hard for a few seconds. One lash of the big fellow's tail soon sent him flying. It was the most impudent proceeding one could imagine.

"The hen fish never seemed in the least disturbed by the fighting which was going on all round her, but kept steadily at her work. We

watched as closely as we could to see what actually happened, for so many contradictory accounts have appeared from time to time as to what salmon do when they are spawning. The light was not too good, nor the water as clear as one could wish, but as far as we could judge she lay quietly in the hole at the head of the redd just above the gravel already turned up. No movement took place except a continual slight working with her tail, though every now and again she might be shouldered out of her position by one of the cock fish. When she actually spawned she swam slowly about a yard upstream, lay still for a few seconds, then suddenly turned over on to her right side, bent her head slightly back, and arched the whole of her body with the belly on the outside of the curve, and violent and sharp convulsions passed through the whole of her body from the tail upwards. This only lasted a few seconds and she then dropped quietly back into the hole at the top of the redd. When the violent movement was taking place gravel and mud which she had disturbed with her tail came floating down stream, and it was often only by this discolouration of the water that one was able to find a spawning fish. Except at the moment of

spawning the hen fish is hardly visible in the water, but the cock is generally easily seen owing to his redder colour. The operation of spawning was repeated about every three or four minutes. After the hen fish had spawned the cock fish would generally 'sidle' up alongside her, except on those occasions when he was fighting with some of his rivals. We noticed a distinct hollow, about six to twelve inches deep, at the head of each redd, and the easiest way of discovering the beds was to look out for a depression in the gravel, below which one would generally find a stretch of freshly-turned stones for a yard or two downstream. Most of the spawning we saw was done in very fast water and amongst fairly large gravel, many of the stones being as big as a large apple."

I have myself been fortunate enough to see salmon actually engaged in spawning, and I can personally vouch for the general accuracy of the descriptions given above. It is my experience that a good deal of combativeness is observable amongst the fish when, as in the second account, there is an undue proportion of males on the redds. I need not amplify these descriptions of spawning salmon, but I think it may be of interest if I add a few notes on the spawning of sea-trout.

I have often in late autumn, after a night's rain, taken my way through the woods to follow the windings of some little tributary stream in which great fishes of 3 lb., 4 lb., or 5 lb. in weight might at any moment be discovered. I recall one such morning in especial. I came at one point on an open space beside the stream where, on the further bank and overhanging it, a bush of broom happened to be in flower. Beneath the bush, on a patch of sun-lit gravel in the river, a pair of sea-trout were quietly lying side by side, actually cheek to cheek. One could hardly imagine a prettier picture of a quiet flirtation, and I made a wide circuit in case I might haply disturb fond meditations.

Except that everything is necessarily on a smaller scale in the case of the sea-trout, there seems to me to be no difference between the conduct of the salmon and sea-trout throughout the operation of spawning. The female extrudes her ova just as the salmon does by a series of rapidly repeated convulsive movements, and in so doing she displaces the smaller gravel on which she spawns. She does not of set purpose, I think, make a nest, but a hollow is the outcome of her actions, and she hardly works her way up-

stream at all so far as I have observed. There is always one male in attendance, but in a wide stretch of suitable gravel you may see a number of pairs spawning in company, and, as the males rove about here and there over the stretch, it is not always easy to determine whether "every two is a pair" or not. I have seen as many as twenty fish quite plainly from one viewpoint, some of them spawning in water barely sufficient to cover them. They do not easily take fright. The females are intent on business, and the males seem to be too busily engaged in scattering the trout and parr which flock to the neighbourhood of the redds to look out over anxiously for human enemies.

I have never seen the males engaging in a pitched battle, but a large male may often be seen chasing a smaller one from his chosen female, and they make quite a cheerful splashing when they inadvertently run ashore as they often do. The male does not develop a hook on its lower jaw so proportionately large as the male salmon does, though at spawning time the sea-trout's hook is certainly more pronounced, but it does not seem to be a formidable weapon of offence.

I have watched the same pairs of fish spawning

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over a period of at least three days, but it is not easy to say how long the time of spawning lasts for individual fish. When the spawning process is over the fish very quickly desert the redds for safer and deeper quarters.

The Great Salmon Myth



CHAPTER XI.

THE GREAT SALMON MYTH.

THE marks of a myth are (1) that it is widely believed, (2) that believers can always adduce "evidence" in support of it, (3) that such "evidence" is always difficult to get at, (4) that the myth tends to localise itself wherever such localisation seems to confer some distinction on the locality, and (5) that it has usually some origin which can be dimly guessed at.

That early incident of the Great War, the Russian Soldier Myth—when our crafty War Lords were popularly supposed to be passing Russia's superfluous "cannon-fodder" from Archangel to France *via* Britain—is a case in point. The "facts" were widely credited by those who knew somebody who had a cousin who had actually seen Russian troops at the wayside station whence he travelled daily to and from his business. There was, in fact, at the time a great movement of troops being conducted with the

maximum of official secrecy, and this cloak of mystery helped to foster the myth.*

The Great Salmon Myth which I have in mind to glance at in this chapter is the belief, almost universally held in each district where there is a salmon river, that "in the old days" salmon were so plentiful that various classes of persons, indoor servants, farm labourers, and apprentices, bargained with their employers against being fed upon the fish oftener than a prescribed number of days in each week.

I chanced upon what is perhaps the most pregnant allusion to the subject the other day when reading Franck's "Northern Memoirs"—to the 1821 reprint of which Sir Walter Scott, as already said, contributed a preface, a fact of some little relevancy to our theme. Here Arnoldus, discoursing in the year 1658 of the River Forth at Stirling, remarks *more suo*: "The Firth runs here that washeth and melts the foundations of the city, but relieves the country with her plenty of salmon; where the burgo-masters (as in many other parts of Scotland) are compell'd to rein-

* An amusing explanation is that some Highland unit, having been overheard in England speaking Gaelic, claimed "Ross-shire" as its home and origin.

force an ancient statute, that commands all masters and others, not to force or compel any servant, or an apprentice, to feed upon salmon more than thrice a week." To whom his friend Theophilus: "Is there such a law in force now?" Arnoldus: "Yes, sure, for ought I know it remains to this day; and the reason of it is, as I conceive, from the plenty of salmon in these northern parts, that should the inhabitants daily feed upon them, they would inevitably endanger their health, if not their lives, by surfeiting; for the abundance of salmon hereabouts in these parts, is hardly to be credited."

Myth or mystery, fact or fiction, here we have at the early date of 1658 an ancient Scottish statute categorically referred to as being then presumably in force. Unfortunately, a diligent search made through "The Acts of the Parliaments of Scotland" (Record Edition) discovers no such ancient statute, and I am unaware that any evidence exists that the magistrates of any Scottish burgh, royal or otherwise, ever voluntarily or compulsorily "reinforced" such a law within burgh. I do not say that such a statute never existed or that no such magisterial decree was ever promulgated, but statutes and the decrees of

burgh courts are tangible "productions" and should be producible—if they are in existence.

Similarly one might expect to come upon such a stipulation—if in fact it existed—in an apprentice's indenture, of which class of documents many ancient forms must be still extant, but I do not remember any such Scottish document having been made forthcoming to prove Franck's statement.

One does not demand production of old-time written agreements between employees of the labouring class and their masters. It is unlikely that the terms of the engagement of mere servants would be reduced to writing in an age when few of them could read or write with any facility, and it might be captious to ask for written evidence of what might very well be a matter of custom in their case. But there seems to be no very clear evidence of any kind of such a bargain or understanding having been customary in any Scottish district.

We have noted Sir Walter Scott's literary connection with Franck's book, which he probably knew well, and doubtless the passage I have quoted from it must have appealed strongly to his antiquarian bent. At any rate in describing

in "Old Mortality" the laird of Milnwood's menu—the table being supposed to be "set" in the year 1679, in a mansion not a hundred miles from the river Clyde—he remarks: "A large boiled salmon would nowadays [that is, in the year 1816] have indicated more liberal house-keeping; but at that period [namely, in 1679] salmon was caught in such plenty in the considerable rivers in Scotland, that instead of being accounted a delicacy, it was generally applied to feed the servants, who are said sometimes to have stipulated that they should not be required to eat a food so luscious and surfeiting in its quality above five times a week." The dictum of so capable an antiquary as Sir Walter Scott on this point is cautious in the extreme. The words "who are said" suggest that he had himself found no proof of the alleged custom, and the whole passage indicates that when Scott wrote his novel the custom, if it ever existed, had died out. If evidence of the custom had been available in Scott's day it is almost incredible that he would have been ignorant of it.

Dr. Francis Day, in his excellent and exhaustive treatise on the "British and Irish Salmonidæ," 1887, says: "Although many authors have of late

years held that the widely-spread belief that laws formerly existed prohibiting giving salmon to servants or apprentices more than three times a week was a popular fallacy, it seems more probable that it is the recent authors themselves who are in error." He thereupon submits a wealth of evidence in support of what?—the "probability." He quotes both Franck and Sir Walter, and gives other Scottish references. As to the Ness, he cites Burt's "Letters from the North of Scotland," 1754, to the effect that "the meanest servants, who are not at board wages, will not make a meal upon salmon if they can get anything else to eat"—which falls short of evidence of any definite bargain. As to Scotland generally, a hundred years later, he says that Murdo Mackenzie in 1860, in his "Salmon Fisheries of Scotland" remarked that "servants of farmers used to stipulate with their masters that they should not be obliged to eat salmon except on a certain number of days in the week." Again the implication is that by 1860 the custom, if custom there was, had ceased, so far at least as Murdo Mackenzie knew.

But Dr. Day's note as to the Tweed is so suggestive of the Russian soldier parallel that I

may be excused for quoting it at length. In this note he tells us that in McCulloch's "Dictionary of Commerce," 1869, we read that "within the memory of many now living salted salmon formed a material article of household economy in all the farmhouses in the Vale of Tweed, inasmuch that indoor servants used to stipulate that they should not be obliged to take more than two weekly meals of salmon. What is true of Tweedside might also be so of any other salmon-producing district; and I have just heard, on the authority of a lady lately residing near Nairn—the formula is delightfully familiar—"that similar stipulations were made in her father's house in that neighbourhood within her own recollection." But Day is as cautious as Sir Walter himself, and so—"Although such agreements were, in the case of domestic servants, probably never committed to writing, and perhaps rarely even in that of articles of apprenticeship, it seems not improbable that a custom apparently so common might be incidentally referred to in the correspondence of that period." Alas! It has to be admitted that "An examination of the rich collection of Dunrobin Castle has as yet, however, furnished no evidence, save indirectly, in connection with the cheapness

of the commodity in question, which seems to have been occasionally sold at less than a penny a pound." In other words, in a quarter where a reference to the alleged bargain might well be looked for—especially as the value of the fish is specifically dealt with—none is found, and the evidence above given, whether as to the Tweed or the Nairn, is not so conclusive that a court of law would find the existence of any such bargain established whether by custom or otherwise.

As long ago as March 2, 1861—it is Mr. R. B. Marston who kindly gives me the reference to "The Carlisle Journal"—some notes appeared in "The Field" which at first glance might almost seem to prove the affirmative in our discussion. There is a circumstantiality in the information given that apparently leaves no room for doubt; but let the reader judge for himself. Mr. G. Shotton, of South Shields, depones: "My uncle, a magistrate of the borough and eighty years of age, tells me he has seen and read an indenture of apprenticeship of a boy to a boat-builder of this town, where it was expressly conditioned that the apprentice was not to be fed upon salmon oftener than three times a week." And a Mr. G. H. Smith, of Handsworth, Birmingham, wrote :

"My father, who died last year, aged seventy-eight, said he himself had once put his name to a draper's apprentice's indentures at Worcester, in which it was distinctly worded that the apprentice should not be compelled to eat salmon more than three times in a week." It is an invidious thing to challenge on merely general principles the accuracy of any given statement, and one hesitates to doubt the veracity of these worthy octogenarians, one of whom moreover was a magistrate of the burgh of South Shields. But apart from the obvious objection that the evidence is given at second-hand, there is no more common delusion amongst those who are fully equipped for the rôle of *laudator temporis acti* than to suppose that they themselves were identified with any matter or thing which excites the interest or curiosity of a younger generation. Your confirmed doubter will content himself with demanding production of the documents.

Of evidence of the widespread range of the belief Dr. Day furnishes no lack. A "History of Gloucester" (the Severn area) provides "evidence" of the apprentice agreement which a "History of Worcester" (1808) "confirms." Thomas Bewick, the engraver (1824), had "been told" of such

—clauses in indentures at Newcastle-on-Tyne. It is a question whether Messrs. Shotton and Smith's informants are not thus corroborated, or vice versa. In the "Report of the Salmon Commission of 1860" it was observed that the Commissioners "heard of" such indentures in every locality they visited. The stipulation was said to exist "in the Hereford charter [the Wye] and in many other places." Even in Kidd's "Companion to Southampton and the Isle of Wight" the farm servants and apprentices had, it was said, "formerly" to protect themselves against a surfeit of salmon.

The apprentices on the Rhine and the Elbe, moreover, declined, it is said, to permit themselves to be "fed up" with the local salmonoids, and in Eastern Pomerania, "before 1850," the servants "of both sexes" declined to be "put upon" by their masters with respect to salmon.

It is but small additional "proof" that my friend, Mr. Grinnell Willis, of Morristown, New Jersey, U.S.A., tells me of the prevalence of the belief that such an agreement as we are considering was formerly common in some of the Atlantic sea-board states of America.

Now it must be admitted that it would be very

remarkable if such a far-flung belief had no foundation in actuality. Assuming the fact of the bargain to have existed, as alleged, salmon may at some by-gone date have everywhere been so plentiful as to be in most places a drug in the market, because in most places in former years the market would be strictly local in respect of difficulties of transport. But such a reason—to take Sir Walter Scott's citation as an example—could hardly have applied to the Clyde, once prolific in salmon though now tenantless, because salmon from the earliest times formed a staple export of Glasgow's trade. What might not elsewhere be endured would certainly on Clydeside be cured.

It is conceivable again that the objection raised by the apprentices might be to a continuous diet of salted fish—although neither salted fish nor kelts are usually connoted—either, first, on account of its monotony, or, second, because it predisposed the partaker to leprosy. In this latter case a compelling statute of partial abstinence in the public interest would be a legislative "precedent" of the first importance in the matter of food control. But as I have said any such statute is unknown to me.

There seems to be a peculiar fascination in my present text because the subject of it keeps cropping up perennially in literature, and few indeed are the smoking rooms of sporting lodges in which the subject at some time or another during the fishing season is not discussed with more or less heat.

It will interest many to have Mr. H. T. Sheringham's recorded opinion. To the March issue (1920) of "The Salmon and Trout Magazine" he contributes an article on "Odd Hours in the Angler's Library," in the course of which he discusses Selden's "Table Talk" in its unexpected aspect as an "angling book." This passage caught his eye:—

"If a servant that has been fed with good beef goes into that part of England where salmon is plenty, at first he is pleas'd with his salmon, and despises his beef, but after he has been there a while he grows weary of his salmon and wishes for his good beef again."

"Obviously," comments Mr. Sheringham, "Selden must have known this surfeit of salmon himself, and may have come by his knowledge as

anglers do to-day. Most salmon-fishers would agree that after a few days of feasting on their spoil, the thought of good but unobtainable beef is peculiarly poignant. There is, however, another point about Selden's illustration. It is surely indirect evidence in favour of that much disputed thing, 'the apprentice's salmon.' There is a vigorous tradition from old times that in towns situated on salmon rivers a clause was commonly inserted in apprentices' indentures stipulating that they should not be required to eat salmon on more than a certain number of days in the week. So far, however, no indenture containing such a clause has come to light in spite of frequent correspondence on the subject in papers which deal with fishing topics. Personally, however, I have little doubt that the salmon clause was a real thing, and Selden's words strengthen my belief."

One must not quarrel with Mr. Sheringham's "belief," which is the most recent authoritatively expressed opinion on this matter. On the other hand one need not despise and flout those who contend that the whole story is a fable and a myth whose origin is the dogmatic assertion concerning the river Forth in the year 1658 of the ingenious

and egregious Cromwellian trooper, Richard Franck, strengthened as that assertion was bound to be by Sir Walter Scott, in 1816, through the passage written by him in "Old Mortality."

It occurred to me that if any one place more than another was likely to produce an original document containing the disputed clause, Stirling—being the locality specified by Franck—might well be that place. I accordingly wrote to one of the oldest established firms of solicitors in Stirling asking whether any such document had ever fallen under their notice, or was likely to be found in their repositories. It may be of interest if I quote their reply verbatim.

80, PORT STREET, STIRLING,

22nd Sept., 1920.

HENRY LAMOND, Esq.,

Cleveland Bank,

Luss, Dumbartonshire.

Dear Sir,

We had your letter of 15th inst. We never heard of any Agreement being entered into whereby masters are not to force or compel servants or apprentices to feed upon salmon more than twice a week.

We sent your letter to Mr. Morris, Town Clerk, and he replied as follows :—

“On my return from holiday, I find Mr. Lamond’s letter to you awaiting me. I have often heard the story about servants objecting to be fed upon salmon, and it is told of other places besides Stirling. I have not, however, seen any written authority for the story, and I am afraid it is either traditional or mythical. I return Mr. Lamond’s letter.”

Yours faithfully,

A. & J. JENKINS.

I would be the last to contend that this letter is calculated to set the matter at rest. It goes no further than to prove that in very likely quarters definite affirmative evidence of the alleged “agreement” is not known. It remains for true believers now to produce such affirmative evidence—if they can.

Worms for Bait

CHAPTER XII.

WORMS FOR BAIT.

I HOLD it as a fixed principle that worm-fishing forms a sound introduction to the more delicate art of fly-fishing. A very little thought will convince even the purist that this must be so, because by no other means will a knowledge of the movements of water and the ways and habits of fish in their environment at different seasons be so thoroughly obtained. It is of course best that this knowledge should be acquired—as in fact it is in most cases—in one's early youth. Few of the best Scottish anglers that I know but have thus laid the foundations of their skill. I am not sure, however, that many of them have troubled to scrutinise with any particular interest such differences as exist in the tribe of worms. Such differences, as will be shown immediately, are something of a problem and are therefore worthy of our attention here.

I do not think that very many, of our city

anglers at least, will be able to identify with certainty more than one or two of the various species of worms. The common or garden worm, perhaps even "garden fly," is definition enough for most of us. Doubtless the matter is of no great practical importance—a worm with its own or any other name being quite acceptable to the trout—but it is reasonable to expect some means of identifying the species a particular author may have had in his mind when writing about a particular worm.

There seems to be no such guidance. On the contrary the student will find, when consulting the "authorities," that each gives a different list of the worms which are useful from an angling point of view.

Father Izaak speaks highly of the dew-worm, "which some also call the lob-worm," and the brandling, "the first for a great trout, and the latter for a less," a dictum of greater breadth than accuracy. "There be also of lob-worms some called squirrel-tails also divers other kinds of worms as the marsh-worm, the tag-tail, the flag-worm, the dock-worm, the oak-worm, the gilt-tail, the twachel, or lob-worm, which of all others is the most excellent bait for a salmon;

and too many to name"—a statement which modern science seems curiously to confirm.

Stoddart, who wrote in 1847, after an impressive apology to Linnæus, enumerates seven useful worms, though his first (now that we have returned from Loch Stenness) is of interest only to members of the Sea Anglers' Society. The seven are :—

- (1) The large Sand-Lob, or Lugg-Worm;
- (2) The Earth-Lob, or Dew-Worm;
- (3) The Black-Head, or Button-Worm;
- (4) The Marsh-Worm;
- (5) The Brandling;
- (6) The Red-Head; and
- (7) The Gilt-Tail.

Stewart, ten years later, in 1857, says that "many different kinds of worm are used by the angler," but he confines his list to four only, namely :—

- (1) The Black-Headed Worm;
- (2) The Brandling;
- (3) The Marsh-Worm; and
- (4) The Red-Headed Worm;

being respectively the third, fifth, fourth and sixth of Stoddart's list.

Francis Francis, after the next decade—namely, in 1867—complicates matters not a little with a new list of seven, though he admits that the last two are not worms at all, but larvæ. He might have gone further and admitted the Dock-Worm to be a larva also. But the gentle reader will observe that he adds a Red-Worm to the worm bag, while he brackets Stoddart's Brandling and Gilt-Tail together as alternative names for the same reptile. His list is:—

- (1) The Red-Worm;
- (2) The Brandling, or Gilt-Tail;
- (3) The Red-Head;
- (4) The Lob, or Dew-Worm;
- (5) The Dock, or Flag-Worm;
- (6) The Blood-Worm; and
- (7) The Meal-Worm.

I confess to the most culpable ignorance regarding some of these, having hitherto been inclined—within certain limits—to the Cottonian opinion that “if a trout be in the humour to bite, it must be such a worm as I never yet saw, that he will refuse.”

Now my duty to my readers, which I hate to shirk, induced me to submit the foregoing lists to scientific scrutiny. As a result Mr. J. Graham

Kerr, M.A., F.R.S., Professor of Zoology in Glasgow University, has kindly given me an interesting dissertation which, I think, merits attention.

“Popular names of animals,” says Professor Kerr, “are apt to be either meaningless or positively misleading. The same popular name may be given in different localities to quite different species, and different writers frequently use the same popular name for different species” —a difficulty which, I may interject, has been encountered time and again in the case of the bull trout. “This holds more particularly,” continues Professor Kerr, “for invertebrate animals, such as worms, which are not so conspicuous as to attract general attention. In scientific work it is therefore necessary to use definite scientific names for species, names which have been defined by accurate scientific description of the specimen to which the name is originally given, so that any properly trained zoologist can later on decide whether a given specimen belongs to that species by carefully comparing its structure with that given in the definition of the species. I regret to say that our Scottish earth worms still remain to a great extent to be worked out by the systematist,

and I should venture to recommend the working out of them as an interesting and useful piece of work to any of your angling friends who would be prepared to give the necessary time and enthusiasm to the task. Should you or any of your friends care to take the matter up I will gladly give any assistance in my power in the matter of technical instruction as to methods of identification and so on."

This valuable offer pleasantly suggests the relationship subsisting between town and gown in Glasgow, and it may be heartily commended to those anglers in that city and elsewhere who have opportunities for research.

Notwithstanding its technicality I feel justified in tabulating the specific information given in Professor Kerr's notes, thus:—

BLOOD-WORM.—This name is commonly applied, not to a true "worm," but to the aquatic larva of a dipterous fly of the genus *Chironomus*. It gets its popular name presumably from the fact that many of these larvæ have their blood coloured red by the same colouring matter (Hæmoglobin) as occurs in the blood of vertebrates.

LUG-WORM.—This is a Polychaete annelid

belonging to the genus *Arenicola*. Besides the common lug-worm (*Arenicola marina*) there occur on our coasts two smaller species (*A. grubii* and *A. ecaudata*).

“The remaining worms of the list which are recognisable,” the notes continue, “belong to the sub-division of the *Annelida*, known as the *Oligochaeta* or true earth-worms,” viz. :—

LOB-WORM, DEW-WORM.—The common large earth-worm (*Lumbricus terrestris*, *L. herculeus*).

BRANDLING.—*Eisenia fætida*.

BLACK-HEAD, BUTTON-WORM.—The worm so-called by Stoddart is identified by Johnston as being *Lumbricus anatomicus* (Dugès). If this is correct its modern name, according to Beddard, our chief authority on earth-worms, is *Allolobophora* (or *Helodrilus*) *chlorotica*.

MARSH-WORM, RED-HEAD.—Is identified by Johnston as being *Lumbricus minor*.

GILT-TAIL.—Is identified also by Johnston as being *Lumbricus xanthurus*.

“But it is to be noted,” adds Professor Kerr, “that modern authorities such as Beddard consider the descriptions of these so-called species to be too vague to admit of their certain identification with the species now recognised.”

RED-WORM.—This popular name also seems to be quite unrecognisable as a distinct species, though it is sometimes given to *Lumbricus rubellus*.

“Of course you will understand,” very properly concludes Professor Kerr, “that all this uncertainty has to do merely with popular names such as have been used by writers on angling. Actual specimens, when properly preserved and if sexually mature, can in most cases be identified readily enough.”

In our pursuit of the Marsh-Worm, Red-Head and Gilt-Tail we have thus stumbled upon the unexpected fact that the spade-work of the scientist has not yet turned all the turf, a fact which appeared to me to be more worthy of attention than such casual observations as I could make upon the practical use of the worm by the angler. A final reflection is that a good deal of popular “knowledge” keeps floating about which might occasionally with advantage be brought to the test of scientific examination.

I had but barely adjusted these notes when my attention was directed to an extract which appeared some time ago in “The Fishing Gazette.” Mr. Marston states that his extract is

“from a capital little work by Mr. Henry Wade, who, half a century ago, was Hon. Secretary of the Wear Valley Angling Association.” It is entitled “Rod-Fishing in Clear Waters by Fly, Minnow, and Worm.” I may perhaps be forgiven for introducing Mr. Wade’s notes here. They are eminently practical:—

“The Brandling Worm.—This is found in old dung-hills, rotten earth, cow and hog’s dung, and spent tanners’ bark. It has a red head, and its tail is ringed with a fine yellow colour; it has a strong odour, and is only a small worm, but is esteemed the best that can be used by some anglers for almost all kinds of fresh-water fish. It may be used at all times and in all kinds of waters.

The Red-head, or Red-worm, is of a pale red colour throughout, and is found in the same localities as the brandling. It is by many considered equal if not superior to it for general fishing.

The Tag or Gilt-tail is of a pale flesh-colour, with a yellow tag on its tail. It is found in marl land, or meadows, after a shower of rain; also in spent tanners’ bark. It is an excellent bait for trout when the water is discoloured by rain, but

requires more scouring in moss than the brandling, and is best for use in March and April.

The Marsh-worm is found in marshy ground, whence its name, on the banks of rivers, etc. It is of a bluish colour, having a whitish knot a little above the centre, and is a good bait for general fishing, being taken well by all fresh-water fish. It may be used from March to Michaelmas. It needs to be well scoured.

The Lob-worm, Dew-worm, Garden-worm, Twatchell or Treachett, is found in gardens, pasture-grounds, by the side of ditches, etc. The best sorts are those free from knots, having red heads, a streak down the backs, and broad tails, whence they are called 'squirrel tails.' They are good for all kinds of river fish through the season, but they should be well scoured."

I trust it will now be recognised that I have done my duty by my fellows. They will now be able, I hope, to order the most killing bait from their tackle-makers without any possibility of error.

The Greatest Problem

CHAPTER XIII.

THE GREATEST PROBLEM.

I do not think I shall be accused of exaggeration when I assert that to-day, in Scotland at least, under the present dispensation of things, the average angler who is not a landed proprietor is totally precluded from enjoying his sport over the greater part of his native land.

For some years before the War a feeling had been steadily gaining ground that a too rigid degree of exclusion of this kind was not in accordance with the best tenets of a liberal public polity, even if it were not actually *contra bonos mores*. Various suggestions had accordingly been made and discussed for a satisfactory solution of a problem which undoubtedly was hedged with difficulties. Now that the War is over one may anticipate that such suggestions will again claim public discussion. Indeed, the Secretary for Scotland has already received a deputation from one of the Border angling clubs on the subject.

In the more southerly areas of Scotland, the angler, except on general principles, has comparatively little ground for complaint. The Clyde and most of its tributaries are open to him, and the vast network of the Tweed and its contributory streams is only so far not open to him that he has to pay a consideration—as is only right and proper—for the sport he enjoys in the greater part of it. The Loch Lomond area, too, is in practice very largely a free area.

The conditions prevailing in the Highlands are totally different. There one has the utmost difficulty in getting a footing upon any loch or stream in which one may desire to cast one's flies. It is true that great tracts of these northern regions have by the policy of the proprietors been placed under the domination of a few deservedly famous fishing hotels, each of which may perhaps exercise sway over a thirty-mile radius or so of country. Undoubtedly, too, such hotels are well patronised by anglers, but I do not think it is by Scottish anglers. By far the majority of visitors, it is pretty safe to assume, are what Andrew Fair-service bluntly designated as "pock-pudding Englishers." Your Englishman dearly loves his creature comforts (I have noticed) even in the

wilds, and hence many of these caravanseries lack nothing that the Army and Navy Stores or the emporiums of Glasgow and Edinburgh can supply. But your Scot, provided he obtains the sport, will put up with the simplest accommodation, and he has no special desire (as I have often observed) for a palatial residence while on holiday. What he wants, and what many of his compatriots would give much to obtain, is the modest comfort of a cottage, whence he can fish the mountain tarn or the moorland burn as he pleases.

In other words, the monopoly at present exercised by these Highland hotels will require to be mitigated in one way or another before the average Scot of limited means can hope to obtain the truest enjoyment of fishing amidst the wilder scenery of his native country. That the monopoly tells against even the owner of a motor car—taking that as a rough standard of prosperity—is evidenced by the fact that some of my friends, touring about for fishing in the north, have sometimes been referred from this overcrowded hotel to that, and from that to one still further afield, till at last they have been forced to find a refuge at that famous, but only too exasperating sheet, Loch Leven.

But there is another aspect of the problem which may be touched upon. It is concerned with the lesser hotels of the Highlands, which, too, in their own way dominate the countryside and indeed help to form one of the factors which almost absolutely exclude the wandering angler from it.

It was my good fortune, not long ago, to explore at some leisure about eight hundred square miles of one of the most magnificent tracts of the Highlands. I could hardly have believed sometimes that scenery of so wild a nature could be found in Scotland, not alone in isolated patches but for mile after mile. Nor was one always prepared for scenes of the most peaceful beauty which here and there disclosed themselves. I traversed the district along main roads still covered with the drifts of winter's snow; I explored wild glen roads that it were a compliment to designate the merest cart tracks; I followed cart tracks that lost themselves in the heather, and I mounted the bare hillsides to be able to realise to the full the surrounding grandeur. And in all this expansive district, a huge "reservation" of lake and stream, teeming with fish life, hardly a rod in many places is ever waved.

It is difficult quite to convey the sense of isolation from one's fellow creatures that seizes upon one suddenly in these hill spaces. From the great corries in the mountains where gigantic black and gnarled Scotch firs reduce the available light to an eerie gloom, even at midday, descendants of the cave men might be expected to issue and make prize of the intruder. John Buchan would see nothing bizarre in the shuddering suggestion, for not a cottage, not a beild, no cry of man or heartsome bark of dog is to be seen or heard amidst the vast loneliness. Yet here were rivers that might satisfy the longings of relays upon relays of trout fishers, and here were lakes, too, which could hardly be overfished under present conditions. And why are these streams not studded here and there with anglers, and why are the bosoms of these great lakes not dotted here and there with angling craft?

Let us go to the central hotel of the district and inquire. There, it is more than probable, you will find the garage crowded with the motor cars of the lessees of the salmon fishing beats. The private room you will very likely find in the occupation of one party of these lessees, the public sitting rooms each allocated to the remainder

The chairs, side-tables, corners, and cupboards are not improbably filled with the endless impedimenta of these favoured individuals. The mantelshelf boasts a regiment of reels. Imagine the feelings of a new arrival forced to request from the landlord some space for his belongings.

"But where would you be intending to fish, sir?" the landlord may civilly inquire. "In the river here, for trout, in the higher reaches," you explain, "I have written to the Laird for permission, and I hoped to receive a reply here." "Man, but that's most unfortunate," he may say, "there is no letter. The Laird's awa', I ken; but the shootings is let and the Factor has wired stopping all fresh permits for the rest o' the season. Ye'd best gang to the Port doon by for the sea fishing; the haill countryside is trysted here." That's just it. The haill countryside is trysted!

It is possible that many great estates in the Highlands are vested in trustees, and, as is well known, bodies of trustees are of all the holders of land those least anxious to make innovations. One may assume, for they tell you so, that they have not the powers necessary to act with any degree of originality of invention in the management of the estates entrusted to their charge. At

any rate they generally plead lack of such powers, and the plea may be allowed them.

In much the same way the real proprietors of great Highland estates may be bound hand and foot by debts incurred by their progenitors. As a financial measure to simplify long outstanding and complicated obligations, some catholic security—as it is called—may be held over their estates by banks or insurance offices. It is manifestly improbable that such creditors will agree to take any step which may in the slightest degree threaten to impair or imperil the regular payment of their interest. It is also plain that it is to the advantage of both classes of these “controllers” to be able to collect their profits, or their interest, as the case may be, in the simplest manner possible, and so for them a single tenancy of the whole estate is the most convenient arrangement. But it more frequently happens that the sporting revenues are derived from a few select sources, namely, rents of fishing beats, rents of shootings, and rent of the hotel. A dozen big cheques are collected, the required income is assured, and both trustees and creditors agree that the management is “sound.” The real truth is that it is rotten, retrograde, and provocative to a degree that will some day appear.

It is plain that it is to the interest of all these persons, quasi-proprietors, lessees, and even the hotel, to exclude, if they cannot actually warn away, the all too hopeful explorer of his own country, and so the fishings are left to a few rods each season instead of being made available to thousands who, with facilities of cottage accommodation, might enjoy a new world of sport. This sort of monopoly should, I think, be materially broken in upon.

I do not propose here to suggest a remedy. The circumstances are complicated by questions of better communications, cheaper transport, building, and even the more skilful utilisation of our water power. But the dry bones are stirring in every direction and that some remedy will be found in no very long time I feel sure. The Scottish Freshwater Fisheries Committee made earnest inquiry into this phase, as well as others, of our fisheries, and it can hardly be that its recommendations will be stultified by sheer indifference of the powers that be as to a question that is really acute.

As root principles, however, of any change I would hazard (1) That all fishing should be paid for at such rates as will secure efficient super-

vision; (2) That on such terms facilities for fishing should be given to the public; and (3) that such restrictions and limitations of the privileges accorded as may be necessary shall be strictly imposed and so sternly enforced that the benefits arrived at will be real benefits to the angling public.

No greater problem than this confronts the angler at the present time, for of what use is it being an angler if one can find no place wherein to angle.



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